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ECONOMIC POLICY, ORGANIZATION, MANAGEMENT

Bunich Interviewed on Self-Financing, Explains Changes

18200248 Moscow in Russian No 6 Jun 88 pp 60-62

[Interview with Pavel Bunich, chairman of the USSR Academy of Sciences Council on Problems of Cost Accounting and Self-Financing at Industrial Enterprises, correspondent member of USSR Academy of Sciences, conducted by Valentin Sergeyev: "Self-financing: Words and Things"]

[Text] [Question] Today much is said and written about opponents of perestroika, about interference in the introduction of the new economic mechanism. "The words are new, but look to the things which they designate, they are the same, but with a different name," writes a reader from Leningrad, Yu. Sobchenko, an engineer. One wants to say: "Mask, I know you!" "Self-financing" "self-support" and "state order" are thought to be such masks.

[Answer] I think that your reader is only partly correct, but when he talks about masks he hits a point. If one can use such an expression, our "economic past," in order to hold out and win time, did not expose itself in a wild strip tease, but cunningly disguised itself for the future. Operating since the beginning of the 1930's and long having shown its lack of future, financial allocation [razverstka] was "renewed" during the stagnation period and called "normative distribution of profits." Understandably, the results remained the same. A year or two ago this same practice received the name self-financing. Without any influence from the press, the conviction quite quickly became widespread that self-financing is the tool which lies at the basis of cost accounting, cost accounting is the basis for the economic mechanism and the economic mechanism is the basis for acceleration. It turns out that self-financing is the basis of all, the more self-financing per unit of output, the wealthier society will be. Now people are waiting for the main effect. Time passes and there is not enough "wool." They can say that self-financing was undertaken for nothing. In many cases they are not fighting for it but against it! The birth of anticost self-financing has been prevented by a good contraceptive: formalism. Only the spectre of self-financing is haunting enterprises...

[Question] I appreciate your polemics, Pavel Grigorevich, but I want to keep the conversation in especially useful channels because in 1988-1989 self-financing will be applied to the remaining sectors in the national economy. It is intended to convert the railroads to self-financing. Therefore, let us examine the existing self-financing mechanism in more detail.

[Answer] I agree, but first something about its essentials. One is that all an enterprise's costs are covered by its earnings. All, not just those which are financed from cost

accounting income or profits, as frequently asserted in the press and in economic literature. Compensation for material costs is an initial point in the self-financing process, a large share of earnings are used for these purposes. Above all, depreciation is a form of compensating for material costs. It should be subtracted from enterprise earnings and accumulated so that when the time comes to replace old fixed capital with new, enterprises will have the financial resources. The overwhelming majority of enterprises on self-financing allow practically unlimited nonreturnable withdrawals from the depreciation fund that are redistributed from old enterprises to new ones. Under these conditions new enterprises artificially increase their current requirements to replace fixed capital in order to "give up" less, while old ones increase them in order to "take" more. This disrupts the fixed capital circulation equilibrium.

The second component in the self-financing of material costs is compensation for expenditures for raw materials, parts, fuel, energy and water. Formally these are always paid for by the enterprises themselves, as they pay bills for these items. In reality, however, enterprises simply obtain resources from superior units in order to pay these expenses. If resources are insufficient, credits are granted. The main distortion in the system for financing material expenditures is that when they are paid for by state sources and loans, consumption norms are increased. There is enough not only for irrational management, but also for the formation of excess reserves. Now the enterprises to some extent calculate and form their normatives for circulating capital. However, consumption norms and reserves are not reduced.

[Question] Why does this happen?

[Answer] I will explain. Most enterprises retain former, that is increased, normatives. This is because of unreliable supplies. This practice undoubtedly harms self-financing.

[Question] How are wages funds formed under these conditions?

[Answer] They depend upon a base fund for wages in the previous year. Then, depending upon increases or reductions in normative net product (commercial, gross) they are increased or decreased using a special coefficient. Assume that normative net product has increased 5 percent. For each 1 percent increase in the base fund wages are increased by three tenths of a percent. The total fund is $100 + 1.5 = 101.5$ percent. This means that everything depends upon last year's income, even its growth, after all, three tenths of a percent is a bigger amount if the base fund is a bigger. This fund can be artificially increased by using low output norms and exaggerating staff size. It will not reflect the customers estimate of the quality and modernization of output. In other words the wages fund formation mechanism is to a

great extent subjective. Enterprises are put in undeservedly beneficial or unfavorable operating conditions. As a result wages funds are not closely enough linked to product quality and final results from labor collective activities.

[Question] What an effective mask! Under it is the same old economic mechanism which we have unveiled. What do economists propose doing to eliminate the old?

[Answer] It is advisable to make the wages fund depend only upon current production results. In first approximation it is composed of enterprise earnings minus material costs, that is, it coincides with net product. Part of net product a specific purpose and is transferred to the budget, bank or ministry fund. The residual consists of enterprise cost accounting income, which will be the framework for determining the wages fund (together with the material incentives fund—the fund for payment to labor) and the net profit remaining at the enterprise (if the material incentives fund is transferred to the fund for payments to labor, it is distributed to the social development fund and the production, science and technology development fund).

The best that can be proposed for the comparatively distant future is to give enterprises the right to independently "apportion" cost accounting income to payments for labor and to net profit. This decision assumes that collectives will be interested not only in today's income but also in the development of their enterprise. In such situations they will not allow excessive allocations of cost accounting income to pay labor, but to the detriment of accumulation. Practical steps to establish the dependency of payments to labor on current results are being made at small enterprises in Estonian light industry. However, the best example is the Bmuskiy Combine for Personal Services (Latvian SSR). The category "base wages" no longer exists there. The collective divides all cost accounting income into the wages and stimulation fund. In the process they only see that growth in service volume exceeds growth in average wages. The size of individual funds for providing incentives to the labor collective is determined independently. This system now covers enterprises in the Latvian SSR Minbyt, which provides almost half the services to the public.

[Question] Profit has a special role in the self-financing mechanism. What hides behind this concept?

[Answer] Profit includes payments to society and net profit remaining at the enterprise. The first deduction is to payments for funds. This operation often violates self-financing principles. Some enterprises are freed from payment, while the remaining ones pay from 2 to 8 percent—"as much as possible." Poorly performing enterprises do not make this payment or pay very little. On the other hand, enterprises which are performing well have, in the opinion of ministries, "surplus" profits and make the largest payments. If there are two enterprises with equal profit rates, the largest payment will be made

by the one which, in the opinion of superior organizations, does not need sizable resources. This practice does not stimulate efficient work, promotes dependency and hinders self-financing. After payments for funds have been deducted, collectives send some profit to the ministry. Low-profit and money-losing enterprises are freed from this payment, but they obtain the most from ministry funds. Highly profitable enterprises contribute resources, but obtain nothing in compensation. This is another deviation from self-financing.

[Question] So, self-financing collectives obtain the same incentives resources as do those which are not self-financing?

[Answer] Yes. This is why we are attempting to tear away the mask where it covers old procedures. So far the best enterprises, especially those which only use small amounts of profits for their own needs, are the largest payers. An example is the Dnepropetrovsk Production Association "Dneproshina": 84.7 percent of its profits will be taken away in 1990.

[Question] Another question frequently posed by regional newspaper people: Is it advisable to convert small enterprises to self-financing? They have fewer resources than do big ones, are not able to set up their own computer centers, subsidiary farming operations, clubs, sanatoria and other facilities.

[Answer] True, but they can pay for services from common use computer centers and, on a share basis with other enterprises, set up common use subsidiary operations, repair, design and construction services. Small enterprises (either as part of big ones or independently on the market) are capable of quickly modernizing production, making it possible to maintain sufficient profit levels. If small enterprises find themselves losing money, which, incidentally can also happen to big ones, they should be subject to liquidation. The possibility of implementing self-financing depends not so much upon enterprise size as it does upon the degree of collective independence. If all strategic and many tactical decisions are made by superior organs, then they essentially regulate enterprise financial activity. For some collectives the results will be unjustifiably good, while for others, undeservedly bad. A program to expand enterprise rights and responsibilities is now under way. Light industry enterprises form their plans from trade system orders. The targets for the most important items are only fixed by enterprise specialization. Enterprises themselves determine staff size, skills and the wage system. Savings in the wages fund can be entirely spent upon increasing wages and salaries. Upper limits on bonuses have been removed for some workers. A great step forward has been made in foreign economic activities. However, the need for such measures is greater than the practical steps.

When, thanks to effective cost accounting incentives, the divergence between the interests of society and collectives are minimized, then the need for centralized leadership will be correspondingly reduced, but not completely eliminated. State orders are a noncontradictory

form of combining it with independence. They should primarily be for items which are unprofitable for the enterprise to produce, for supporting revolutionary technological advances, large scale changes in the national economy and for products purchased directly by the state. However, state orders still do not correspond to their true essentials. If one takes off the mask... But that is a subject for a special discussion.

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Technical Reconstruction Policy Examined Prior to 13th FYP

18200266 Moscow *PLANOVOYE KHOZYAYSTVO* in Russian No 7, Jul 88 (signed to press 23 Jun 88) pp 46-54

[Article by V. Faltsman, doctor of economic sciences, professor: "Possible Changes in the Structure of the Economy"]

[Text] The prerequisites for technical reconstruction are created in the science sphere, materialized in machine building and construction and realized through structural investment policies. Today, when we are at the very beginning of a new stage in technical reconstruction in the national economy, it is important to analyze these prerequisites, taking into account experiences during the current five-year plan and to make the needed plan changes and outline the contours of investment policy for the 13th five-year plan.

The technical reconstruction of the national economy began with the renewal of the machine building complex, which during 1986-1990 was allocated 1.8 fold more capital investments than in the preceding five years. This was the largest maneuver in structural investment policy. However, during the past two years of the current plan machine building has not fulfilled the production volume plan for machinery and equipment and has not utilized resources allocated for its reconstruction. The plan for the utilization of capital investments was 92 percent realized and that for the introduction of fixed capital, 78 percent. The plan for capacity introduction was not fulfilled for about one out of three positions.

Among the reasons delaying technical reconstruction in machine building are the shortage of construction capacity, insufficiently concentrated capital investments and, consequently, the unjustified duration of the entire investment cycle. There are still no agreed upon requirements for machine building and construction to reduce their innovation and investment cycles. During the current five-year plan machine building should reduce the time required to develop and master new technology by 3-4 fold. It was intended to reduce construction time at major industrial projects by half, down to 4-5 years. However, even these cautious plans are still not being

fulfilled. If the situation is not corrected and construction time for machine building enterprises is not reduced to 1.5-2 years, by the end of the current five-year plan the gains from reducing the "science-production" cycle will inevitably be lost. Domestic and imported equipment will become obsolescent even before it is used to produce products.

Overcoming backwardness in machine tool building is a serious task. With the planned growth in capital investments, machine building's demand for manufacturing process equipment will grow by a factor of roughly 2.5, but production, including nonspecialized machine tool building, is to increase only by 1.9 fold. Thus, the plan already contains a shortage of manufacturing process equipment to reconstruct machine building. Also, during the past two years the machine tool product production plan has not been fulfilled.

According to data from the USSR Goskomstat [State Committee for Statistics], the share of machine building output meeting world technical standards is growing very fast. In the first half of 1987 it was 47 percent, while the annual plan was 38 percent. However, one must take a critical approach to this success—demand is still not being met. In the sectors there is still a rush for imported technology. In the markets of capitalist countries, which make especially strict demands upon product quality, the percentage of Soviet machines is miserly small, and the export assortment is very limited.

Should we continue to force the production of any machine building product? Wouldn't it be better to reduce capital investments and thus growth rates where the lagging of qualitative indicators is most marked? As long as there is such emphasis upon high growth rates for production volume, the renovation of machine building is decreasingly oriented towards improvements in quality and technical standards and increasingly towards higher prices.

Under conditions of accelerating gross output, many machine building enterprises ignore equipment users' interests. In introducing state acceptance, the state has stood up for users' interests. However, it has created gaps in quality levels for related production operations, revealed previously hidden disproportions and reduced growth rates both for poorly working enterprises and the ones with which they deal. In determining development prospects for machine building one cannot ignore the dependence of quantity upon quality. If not, plans will again turn out to be unrealistic.

State acceptance cannot lead domestic machine building to the front ranks of technical progress and improve the competitiveness of its products. Nevertheless, one has the right to expect that it will guarantee defect free products, and a regular correspondence between machine parameters and existing standards.

The lack of defects is the most important guarantee of reliability. The low reliability of equipment is shown not only by comparison to the better foreign models. It has become intolerable even for the unpretentious demands of users in the internal market. For example, the mean time between failures for a domestically produced industrial robot is about 200 hours (actually just a few hours), while for a similar foreign model it is 2,000-3,000 hours. Reliability requirements are increasing as the transition is made to complicated systems of machinery, especially integrated automation, from discrete to continuous production and around the clock operation. A single machine breaking down paralyzes the work of an entire production complex.

Unreliability in machinery is closely linked to stretched out deadlines for mastering capacity, hypertrophic costs for repairs, massive idle time of equipment and people, short service life for equipment in the extractive sectors and agriculture, causing huge capital investments with practically no return. **In the area of improvements in the technical standards of equipment, it has long been necessary to refocus priority towards improvements in reliability.** Plans, however, continue to give preference to increases in equipment productivity and unit capacity.

The concentration of machine builder's efforts upon increasing unit capacity has begun to cause considerable damage to the national economy. A growth in the unit capacity of surface mining equipment will not bring the desired results if it is attained through design shortcomings and defects in manufacturing.

Of course, it is often more profitable for machine builders to build one large machine than several medium and small ones with the same total capacity. In large scale and mass production increases in unit capacity also make possible higher economic results for their users. However, this often harms the work indicators for numerous customers of the products produced by the large capacity units. Highly productive manufacturing lines are effective if they are narrowly specialized. They are not suitable for producing small batches and they limit the assortment.

For example, the use of powerful manufacturing lines at house construction combines makes it impossible to construct sites with structural components that meet specifications. As a result, builders have to accumulate huge stocks. If a component is not available, then builders are idle. The advantages which the supplier obtains from powerful equipment are outweighed by losses to users.

For many types of equipment (blast furnaces, rotating ovens for roasting clinkers, power engineering units, etc) further growth in unit capacity will give only insignificant or no improvements in economic efficiency. Nevertheless, here our country is ahead of others.

Other consequences of gigantomania are: lagging in the production of small capacity equipment for motor vehicle transportation, of agricultural equipment for small fields, covered ground and private plots, and construction equipment for rebuilding existing shops.

In some cases unit capacity should be reduced and production dispersed for the sake of industrial safety. This problem is especially urgent for nuclear power, the chemical industry and petroleum refining, where the growth in unit and plant capacity and their concentration in limited areas have reached critical magnitudes. An emergency may lead not only to disruptions in the work of hundreds of customers, but to huge amounts of harmful emissions into the environment.

An important prerequisite for improvements in product quality and its accelerated renewal is the mobility of machine building production, which assures that it is receptive to everything new. Production based upon manual labor using simple tools and general use equipment is most mobile. It can produce the most diverse items. However, productivity is low. Highly productive, rigidly automated lines are the least mobile. Therefore, **the strategic direction for improving the mobility of machine building is through the flexible automation of production based upon industrial electronics, numerically controlled machine tools, industrial robots, flexible production systems and computer assisted design systems.**

Flexible automation fundamentally changes machine building's nature and potentials. At minimal time and capital costs such automation makes it possible to renovate production, convert to the production of fundamentally different machines, reduce the machine tool stock and the volume of incomplete production, and accelerate the turnover of circulating capital. With the help of flexible automation one can avoid increases in costs during the conversion to small series production of machines with parameters more completing in accordance with operating conditions and customers' needs.

Given such significant advantages and its wide range of possible application, it would seem that in the immediate future flexible automation should become the basic technology for machine building. However, capital investments in this sphere are still insufficient.* The payback periods for automation equipment averages almost twice the normative period. In some cases this equipment never pays for itself. In recent years several studies have shown that the overwhelming majority of robots, NC machine tools, flexible modules and production systems installed are either not working at all, or are incompletely used.

To assure flexible automation's efficiency, the scale of its implementation should not be planned autonomously, but synchronously in proportion to scientific research and experimental design developments creating the prerequisites for the accelerated renewal of production. However, the forced development of flexible automation

is under way parallel to reductions in the number of machines created (4,000 annually in the 9th Five-Year Plan, 3,700 annually in the 10th and about 3,000 in 1987).

Domestically produced flexible automation equipment is still very expensive. The capital intensiveness of this technology is 2-3 fold higher than for traditional units. Without a many fold improvement in the reliability of electronics, control computers and machine tool accessories, flexible production systems will not be able to operate. Together with price reductions for flexible automation equipment, a solution to this task is a necessary prerequisite for its efficient wide scale application.

Results from the use of flexible automation depend directly upon the standards of production organization and of general operating conditions. It is hardly necessary to prove that it makes no sense to use micro-electronic systems in automated design if 60-70 percent of designers' work time is spent on correspondence and coordination.

An important factor reducing the returns from capital investments in flexible automation is the lack of technical service systems. Firm centers do start up and adjustment work for only 20 percent of NC machine tools introduced and only 1.5 percent of the stock has guaranteed service. Only a few enterprises with qualified industrial electronics services can do their own repair and adjustments of flexible automation equipment.

The conditions for the effective application of flexible automation have only begun to take shape. However, plans have already outlined extremely high growth rates for producing this equipment. It is intended that the scales of its production will somewhat exceed the levels of other industrially developed countries. According to the plan, the production of industrial robots should double in the 12th Five-Year Plan. However, robots for transportation operations predominate, even though the requirements for them are almost completely satisfied. In determining prospects for the development of flexible automation by the end of the current five-year plan, there should be adjustments in the initially intended scales of production, reductions in outlays for increasing the production of flexible automation equipment, directing these resources towards creating conditions for its effective use, particularly for scientific-research and experimental-design work in microelectronics, for setting up service centers and for other purposes where they can bring considerably greater returns.

Under previous economic conditions the acquisition of electronic technology by direct or indirect means was through initiative from above, therefore problems of its overproduction did not arise. Because the state allocated capital investments, many enterprises quite eagerly acquired expensive, insufficiently reliable and not always needed equipment. They even more eagerly manufactured it themselves. This made it possible not only to

use capital investments, but to increase production in their main lines of activity. Thus technical progress and the stormy reconstruction of production were imitated. It was possible to utilize capital investments with practically no construction work. There are already signs of reduced demand for the least effective types of automatic equipment. It is therefore the time to reject the forced development of such "automation."

The production of electronic automation equipment should completely meet the demand of those machine building enterprises which are already prepared for their extensive introduction. It may be possible to see that this equipment is concentrated on priority projects having qualified engineering cadre, scientific and design potentials and industrial electronics services. This will curtail its fragmentation. If this is not done, the effect of automation will be reduced to freeing a limited number of workers. This will cost more than simple mechanization.

Where to get the resources for the technical reconstruction of the national economy? This question is at the center of attention of planning organs and economic science. The traditional sources are limited. The possibilities for accelerated growth in the volume of capital investments for productive purposes are minimal: their share of national income is close to the limit. Their further growth would delay solutions to several social tasks. Our society cannot carry out reconstruction at the cost of the interests and resources of various groups of the population, as this was done in many countries during industrialization. Large loans and increased indebtedness as a solution to investment problems, a traditional path for many states, is burdensome and not very realistic. The solution must first be sought in internal reserves for growth. The most important is to ease the load on the raw materials sector through resource conserving techniques.

Of all the industrially developed countries the USSR has the biggest resource sector. It is very capital intensive. Inputs for increasing the output of primary resources are wasteful when there are still substantial losses of agricultural products, fertilizer, oil, gas, wood, minerals and other raw materials at various stages of extraction, production, processing, transportation, storage and use. The national economy is in no condition to bear these losses.

Reduced loads on the raw material sector will help slow the growth in the damage caused to the environment by the extractive sectors, agriculture, the sectors involved in the primary processing of raw materials, especially power engineering, metallurgy and the forest products complex. There should be reductions in waste of the country's nonreproducible natural wealth, which for a long time now has been seen to be limited. Only by overcoming lagging in resource conserving techniques, which have eliminated huge losses in raw materials, can we mobilize capital investments for breakthroughs in

other directions in scientific and technical progress, the technical reconstruction of the entire national economy and solutions to social problems.

The cheapest and most accessible path to resource conservation, not counting the elimination of direct waste, is the wide scale application of basic resource saving technologies which have proven themselves in practice throughout the world, such as the low waste processing, storage and transportation of agricultural products, the use of secondary raw materials, the chemical and mechanical processing of wood, the comprehensive processing of ore, etc. Our lagging behind other countries in the scales of their application is a very important reason for the high resource intensiveness of domestic production.

During the 12th Five-Year Plan it is intended to increase the use of progressive basic technologies by 1.5-2 fold. For example, it is planned to increase the continuous casting of steel and the use of energy conserving technologies in cement production to 30 percent of output by 1990. This would be a considerable step forward. However, even this is insufficient to overcome the lagging in resource conserving and to eliminate unjustified losses. It is very important to create conditions for forcing the pace with which basic progressive technologies are applied in order to complete most of the transition to a resource conserving economy in the next 5 to 7 years.

Of course, there must be economization of all types of resources, including labor, energy and material. However, **the priority tasks in the immediate perspective are the economization of three types of resources: agricultural and metallurgical raw materials, and motor fuel.** This latter is important for the development of mobile power sources in agriculture, air and motor vehicle transportation, the petroleum and petroleum processing industry, the country's saturation with private automobiles and for export potential.

A radical acceleration in the application of resource conserving technologies will make possible considerable savings of liquid fuel. Its consumption can be reduced by 10-15 percent simply through the dieselization of medium and large capacity city buses and trucks, starting with 2 ton models. It is important to introduce extensively technology for the thorough processing of petroleum, for increasing recovery from oil and gas fields. According to specialists' forecasts, the effect from two can be 6 to 10 times greater than the growth in petroleum extraction planned for the current five-year plan. If these potentials are completely realized the motor fuel problem would be solved for many years into the future. Also, they would be solved in an economical and ecological manner, not requiring resources for additional drilling of wells and the opening of new fields and regions.

Unit capital investments for energy conserving measures average 60-90 rubles per standard ton of fuel conserved; for increasing production they are 2-3 fold higher. Given

such conditions isn't it time to redistribute some of the resources in the fuel and energy complex to energy conserving measures both in the complex itself and in other sectors? From one half to two-thirds of capital investments are released for other tasks, there are reductions in labor inputs and the negative effects of drilling operations upon the environment.

Huge capital investments are allocated to the agro-industrial complex, but there are unjustifiable reductions in the share going to the processing of agricultural raw materials and introducing low waste technology. At the same time the this area's scientific and technical potential makes it possible to sharply reduce agricultural product losses. Reducing meat losses from poor transportation, switching to specialized transportation equipment and introducing low waste processing lines would reduce losses by 2.6 million tons. Through introducing measures to improve potato transportation and storage, losses could be reduced by 20 million tons a year. The Food Program calls for a 9 million ton increase in the potato harvest over a 10 year period.

Not enough attention is given to reorienting ferrous metallurgy's raw material base towards secondary raw materials. This sector's traditional development path is based mainly upon primary metallurgical raw materials with only small growth in the share of secondary. This means further growth in capital investments in the raw material base, inevitable cost increases for primary raw materials because of natural factors and increased energy costs for extraction. Each ton of secondary metal resources used saves 3.8 tons of ore, 1.5 tons of coking coal and 7,500 kW of electric power. Simultaneously, it is possible to overcome environmental pollution: The use of secondary metal resources reduces atmospheric emissions by 7 fold, water pollution by 4 fold and the amount of wastes by 16 fold. The transition to a new raw material base will lead to metal production cutbacks at giant enterprises with full metallurgical cycles and increases in small, marginal operations near industrial centers—sources of scrap and the main consumers of metals. This will help reduce transportation loads and more completely satisfy customers' demand for a large assortment of steel and rolled metals.

The USSR has the world's largest stock of metals, embodied primarily in a huge amount of equipment. The time has come for this equipment's rapid renovation. This will increase scrap resources, a source of secondary raw materials for metal smelting. These resources are so large that they will satisfy the country's internal needs for ferrous metals and permit a 3 to 4 fold reduction in the present use of ore and coking coal. The share of secondary resources in steel production, about 40 percent, could be sharply increased in the immediate future. In the long term, primary raw materials should serve only to compensate for inevitable losses of metal in the country's total stock of metals.

The reorientation of ferrous metallurgy towards secondary raw materials means a radical restructuring of its material-technical base, something for which the sector is still not ready. Large capacity facilities for separating and preparing secondary metallurgical raw materials will have to be created practically from the bottom up. It will be necessary to increase the share of scrap intensive technologies—electric furnaces and basic oxygen furnaces, well equipped converters adapted for the processing of large amounts of scrap. Uniform quality of metal smelted from depreciated scrap can be attained if it is all processed prior to being put into the furnaces.

It is important to take measures to restructure the raw material base for ferrous metallurgy, taking into account experience in foreign countries and not repeating their mistakes. Thus, the U.S. metal industry, having inexpensive ore from developing countries, for a long time increased its consumption of primary metallurgical raw materials. Huge piles of scrap metal were thus created. Now this mistake is being corrected. According to forecasts, by the year 2000 recycled iron will account for 55 percent of total raw material use (in 1970 it was 31 percent). European countries, not having sizable land areas for scrap metal piles, were considerably earlier in taking this path. For example, in the GDR 75 percent of steel is made from scrap.

It is necessary to make timely provisions for those structural changes in the output of the machine building complex which are needed for the accelerated application of basic progressive technologies and for relieving the load on the economy's raw materials sector. For example there should be pace setting rates in the development of capacity to produce energy conserving equipment, reductions in mining equipment production and relative declines in the growth rates of drilling equipment production. Machine builders must increase the production of equipment for the processing industry and reduce deliveries of tractors and combines. There are sharp increases in demand for equipment for processing secondary resources. Such a reorientation of machine building capacity towards resource conservation is not easy. It requires timely measures.

After eliminating huge raw material losses by speeding up the application of basic economical technologies, there can be relatively quick solutions to the most acute national economy problems without overloading the investment sphere. It is necessary to accumulate the needed scientific and planning-design potential and create the prerequisites for the transition to the subsequent stage in technical reconstruction—the massive application of new progressive technologies: comprehensive automation and the use of electronics and biotechnology. Transforming these to basic technologies will make it possible to reach the leading edge of labor productivity, assure that products are competitive, increase plant yields and animal productivity several fold, create the

prerequisites for overcoming long term massive soil erosion and damage to agriculture's biopotential, reduce the use of harmful chemical fertilizers and plant protection agents.

The newest technologies and materials are distinguished by being highly science intensive. Therefore, a very important prerequisite for their massive application is the development and transformation of scientific potential and its qualitative change. It is necessary to tell ourselves soberly that the initial potential of our scientific research and experimental design work is not great enough to rapidly bring our country to the leading edge in all the basic directions of scientific and technical progress or to overcome lagging in microelectronics, the biological sciences and the innovation potentials of machine building.

The qualitative transformation of scientific potential, the massive introduction of automatic control systems, NC machine tools and robotization are primarily linked to the quality of scientific and engineering cadre. Its improvement is a long term process. Here it is important to make substantial advances in the next 5-7 years in order to consolidate the results which have been attained and expand them over the long term. According to our calculations this is impossible without allocating sizable additional resources to science and education.

Preparations for the next stage in reconstructing the national economy inevitably require increases in science expenditures as a share of USSR national income. However, the main thing is to increase the return from them and concentrate them on priority directions of science and technology. It is intended to focus Academy resources primarily on a limited number of basic research programs in the physics of semiconductors, microelectronics, information science, biotechnology and several other promising directions, successes in which will influence the scales with which science intensive technologies are applied. In the very short term the intended organizational perestroika in sectoral science must be completed and it must be integrated with science in the sectors. Design work must be integrated with construction by setting up design-construction complexes.

According to specialists' calculations, in order to increase the capital-labor ratio for scientific workers, which is now considerably lower than for other developed countries, there must be at least a doubling of capital investments in scientific research and experimental design work. Decisively important here are the quality of instruments, materials, laboratory and test equipment and the technical standards for science's experiment and design facilities.

The scientific potential of several subsectors in machine building now assures that they can reach the leading edge. In particular, this applies to spacecraft building, the production of cryogenic technology, rotor lines, some types of welding and metallurgical equipment and

machining centers. However, there are still some weak spots in the general level of innovation potential. There is substantial lagging in very important spheres of machine building such as the production of technically complex mass consumer durables, medical equipment, machinery for the food industry, for producing synthetic fibers and in several other areas. It is a very important task for the current and future five-year plan to raise the innovation potential here and to simultaneously retain priority on leading areas.

In a sketch for a scientific and technical work plan, V. I. Lenin outlined priorities for scientific and technical developments in the period immediately after the October Revolution. They were distinguished by realism, a sober analysis of the country's possibilities and the need to concentrate resources on key directions. In the past we have paid dearly for forgetting these principles and striving to immediately achieve breakthroughs in all important directions of science and technology. It cannot be allowed that resources which our society allocates for new technical reconstruction be invested in technical adventures and not bring the expected returns.

*This problem has been repeatedly examined in the economic literature. See, for example, *PLANOVOYE KHOZYAYSTVO*, No 6, 1988, pp 53-54.

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11574

Gospriyemka Problems, Successes in Ukraine Assessed

18200272a Kiev *PRAVDA UKRAINY* in Russian
16 Jul 88 p 2

[Article by V. Gogunskiy, economist, Khmel'nitskiy, under rubric "Gospriyemka: Is Its Quality Improving?": "What Is Behind the Independence"]

[Text] We might recall that once, on the "Vremya" [Time] program [on television], a worker at a Moscow enterprise, who did not take the bother of choosing her choice of words, called the gospriyemka representatives loafers who did not do anything, she said, but "control." I myself have frequently encountered a malevolent attitude toward the representatives of the new service. And if today the "tidal wave" has subsided, it is only, one would think, because the process of converting the industrial enterprises to state acceptance of their output has slowed down noticeably...

But, of course, the final dot has not been placed on it. As a participant at an All-Union Conference—V. I. Smirnov, worker at the Radio Engineering Plant—said, "I realized then that gospriyemka is something to be taken seriously and something that will be here for a long time." And wherever those services have yet to be organized, the people will probably encounter the problems that the trailblazers have lived through.

At the Elektropribor Plant in Kamenets-Podolsk, for example, the controllers began by "feeling their way," together with their colleagues in practical life, through literally the entire technological process of manufacturing the most popular mass-produced article—the Amfiton-MS mini tape-recorder. The percentage of output accepted at the first presentation doubled in a comparatively short period of time.

Unlike the departmental OTK [Technical Control Department], the gospriyemka workers at the Khmel'nitskiy Forge-Press Equipment Association concentrated on observing the technological requirements of manufacturing the parts. The gospriyemka service at the Stroyfarfor Plant in Slavuta, striving for high discipline in execution, simultaneously, through the regional standardization and metrology centers, exerted a major influence on the raw-material suppliers...

In a word, the new service, the makeup of which, for the oblast as a whole, has already drawn away approximately 200 of the best-trained specialists, is seriously lagging behind the interests of the state. But just as people recommend looking beyond the trees to see the forest, it might be just as well to see the individual trees beyond the forest.

And the "trees" in this instance are such that the gospriyemka services at individual enterprises have preferred not to grow beyond the framework of the purely control functions. Formally one cannot find fault with them about anything. However, certifications of the "watchman at the gate" type, which were issued to the quality controllers, frankly speaking, cause one to sit up and take notice. Because we are dealing with people who (for the most part) were yesterday's specialists at the enterprise, who were truly skilled and respected. One could also hear an even more categorical evaluation. Gospriyemka in its present form is completely unnecessary.

Isn't it true that this is food for thought? But let us take into our consideration yet another evaluation made by the economic managers. It turns out that, in a number of instances, the newly created services have been given the responsibility of the quality control for articles that have a "pedigree" going back to... the 1960's! That, then, is the barrier against defective output where the hopelessly obsolete output itself has become the defective output...

The specific practical situation has also had time to engender certain other paradoxes. Whether one wants it or not, the question arises: what are we talking about, as applicable to the introduction and self-confirmation of gospriyemka? In addition there are, as a minimum, two circumstances that make the problem especially acute. Suffice it to recall that the nondepartmental acceptance of output extended first to the best enterprises in the

leading branches of industry. That step was not accidental—those branches, first of all, determine the level of technical progress. But, on the other hand, a forced governmental step turns out to be very costly.

In Khmel'nitskiy Oblast alone, and solely for the payment of labor performed by quality controllers, there was an appropriation last year of 680,000 rubles, and during this year the total was increased to 768,000. And what is the cost of maintaining the buildings, and the cost of the measurement devices, instruments, and apparatus? What is the cost of the doubled time expenditures for accepting the output? What is lost from the fact that an overload has been placed on the test stands and test areas, the handling capacity of which has been sharply reduced? It is difficult even to enumerate everything that is being diverted currently in order for the controllers to fulfill their duties.

Obviously, even under these circumstances not a single person with common sense will express any doubts today about the need for gospriyemka. Just as no one will express any doubts about the correctness of providing this service with complete independence, which is something, incidentally, that public thinking fought for a long time to achieve. However, it is harmful to close one's eyes to an obvious distortion that has already occurred. Because, if one analyzes the situation properly, together with independence when carrying out its functions, the state quality control service has also achieved... a completely unmandatory situation in resolving any production or economic problems at the enterprise.

Of course, then, the economic managers are confused. The best engineering minds, who constitute, without exaggeration, the enterprise's intellectual potential, have been "withdrawn" from active production turnover. Is it really only so that they can become uncompromising "watchmen"? Here is graphic confirmation of this. At the Kation Plant, the gospriyemka service consisting of 24 persons, during the course of one year, "burst forth with"... two efficiency-improvement suggestions. Meanwhile, in a number of departments at the enterprise, the economic benefit from the specialists' creative developments exceeds their earnings by a factor of 5.

The obvious "damping" of creative thinking in a considerable number of gospriyemka workers cannot be refuted and, moreover, must not be ignored. The direct state interests require that those people be returned to their previous serious and fruitful engineering search. There is also a purely social aspect of this. One cannot allow highly trained specialists, limited to control functions, to become gradually degraded as professionals. The situation that has developed could change, it would seem, thanks to a system of technical-economic assignments for the services and, correspondingly, for each worker. The implementation of these assignments, of course, should be given proper remuneration at the expense of the enterprise funds.

What ought to be included in this system? First of all, probably, the elimination of obsolete items of output. It would seem that it is precisely gospriyemka that would be capable of encouraging certain people to get rid of the predilection for the old, and of helping others who would want to introduce that which is most progressive, but who cannot "stretch" themselves far enough to reach the administrative levels where such questions are resolved. There is yet another aspect. At almost any enterprise the people can cite unjoyful examples of cooperation with scientific-research and design institutions, which frequently force the production workers to accept "dilapidated" developments. The NII [scientific-research institutes] and KB [design bureaus] themselves, as everyone knows, do not have gospriyemka yet. Who, then, is realistically capable of setting up a barrier against creative "semifinished products" that arrive at the plant from without?

Completely permissibly, the very same state control service at the particular enterprise. That service, which is devoid of any departmental interests or pride, would be completely capable of providing expert evaluation of the outside developments and of exerting a time-responsive influence on their originators. The independent, uncompromising position of gospriyemka would also be very worthwhile when working out the truly partner-like interrelationships between the enterprises and their suppliers, who very frequently dictate their own conditions.

Obviously, it is not mandatory for the system of assignments to include the personal creative developments of employees in the gospriyemka services. But it is simply necessary to return the prestige value to those searches. Because the quality controllers, when they changed over to wages that are independent of the enterprise, did not lose their status of being a participant in the particular labor collective, and consequently they cannot and should not abstract themselves from its misfortunes and concerns.

If we now total up what gospriyemka is capable of (and what has been said is far from an exhaustive list of its potentialities), a completely unambiguous conclusion evolves. This service is definitely capable of maintaining itself. That is, of constructing its activity strictly on principles of cost accountability, without retreating in any way at such time from the duties assigned to it by the state. However, in the decree that was recently enacted by the government, which deals with the new tasks of USSR Gosstandart, it is stated outright: all the subdivisions of that department are to be converted to cost accountability except one—gospriyemka. It is difficult and also not proper to dispute *post facto* the correctness of a governmental decision. But, essentially speaking, is that decision really so irreproachable? Obviously, this is not a completely idle question...

**Economist Suggests Creation of Cheka-Type
Economic Commission**

18200236a Vilnius SOVETSKAYA LITVA in Russian
4, 7 Jun 88

[Article by K. Yaskelyavichyus: "Restructuring: How to
Remove an Obstacle in Its Path"]

[4 Jun 88 p 2]

[Text] Only a small amount of time remains before the 19th All-Union Party Conference. The preparations for it, the importance and urgency of the tasks and the irreversible nature of the path which the country is following during the course of restructuring are arousing unprecedented activity among the people, all of whom are vitally interested in a successful outcome for the program started by the party. This activity increased in particular following publication of the theses of the CPSU Central Committee for the 19th All-Union Party Conference. What assistance must be furnished to the party and what must be done to ensure that restructuring is carried out quickly and thoroughly—recommendations for answering these questions constitute a considerable portion of the mail being received by the Editorial Board. Herewith are some comments on this subject by K. Yaskelyavichyus, an economist and scientific worker attached to the Institute of Economics of the Academy of Sciences of the Lithuanian SSR. Some of his thoughts and proposals will undoubtedly be open to question and some readers may even raise objections. But one fact is beyond dispute—the comments are permeated by concern for the fact that restructuring of the economy has assumed a truly revolutionary character.

State Order—For Sawdust

I believe that the reader will agree with the fact that restructuring of the country's economy is still being carried out with difficulty and by no means as rapidly as one would like. And this can only arouse serious alarm. Thus a need exists for a thorough analysis of the braking mechanism that is taking place and for finding unique solutions and steps for overcoming it. Let us give some thought to some of the solutions and steps that have been suggested.

Workers attached to furniture and paper industry enterprises which this year converted to complete cost accounting and self-financing shrugged their shoulders in bewilderment upon receiving, in the form of a new year's gift from their ministry, a state order for the use of wood waste products and for the delivery of sawdust. Thus the Vilnius Azhuolas Furniture Factory, in conformity with an important paper signed by the deputy minister, was required to utilize 500 cubic meters of waste products during the current year and to supply as much sawdust as a secondary raw material. I inquired at the enterprise: "But is it possible for such a quantity of sawdust and waste products to form suddenly at your factory? Can

such a savings be realized from the principal raw material?" The reply I received was obviously in jest: "We will try to see that they are formed."

It seems to me that only one fact was needed for generating the thought that the former Minmebbum-prom did not apply itself very seriously to implementing the statutes of the economic reform. Unfortunately however, facts of this type, both curious and sad, are rather numerous in nature. In my opinion, they underscore convincingly how difficult is the road followed by a state order and they reveal how the planning organs and ministries, both union and republic, distort the formation of a state order—one of the most important statutes of the Law Governing an Enterprise (Association). In this regard, it is set forth very correctly in the second point of the Theses of the CPSU Central Committee: "One cannot help but note that the measures aimed at implementing the economic reform are being paralyzed to a considerable degree by the bureaucratic position being taken by a number of ministries, department and economic organs. In many instances, the former method of administrative dictates is for all practical purposes being maintained under the guise of a state order, economic norms and other new administrative methods." Many production collectives, in the form of an order, are being required to produce goods which are used for satisfying their own needs and for intra-branch cooperation and quite often in volumes which even exceed contracts concluded with trade organizations. In the process, the problems associated with increasing the material resource funds are overlooked.

What are the causes of such phenomena?

The Direction is Correct, but the Methods?

There can be no doubt but that the correct trend has been selected for restructuring planning—the state order. By its very nature, a state order should be profitable for an enterprise and even when employed on a competitive basis. Still the state order is not "working out" to satisfaction. Why is this?

It is often said that there is a clear need for establishing a maximum percentage for products produced in behalf of a state order, for example up to 60 percent of the entire production volume. It is believed that this is basically incorrect, since it is impossible to validate such a percentage and it is even senseless to attempt to do so. There have been and there continue to be branches and enterprises the output of which is distributed on a centralized basis. Does it make sense to establish a maximum percentage for such output, the distribution of which is based upon state priorities? But nevertheless this is being done and it is lowering the role played by a state order. Or how advisable is it to establish a state order for an enterprise, the production of which gravitates towards direct contacts exclusively? But this is being done and in no way is it proving to be of advantage for the work being carried out.

The system of state orders is still not being operated in a completely efficient manner and this is the result of many factors. Allow me to present the following as some of the more important "stoppers."

The introduction of state orders is being held up by the absence of a reliable mechanism for uncovering the true requirements for certain products. However, the appearance of such a mechanism is possible only if there is an anti-expenditure model for management. As yet, as is well known, only the initial steps are being taken in connection with the introduction of such management.

Further. As is known, the plans stipulate that the system of state orders must ensure or at least stimulate the production of consumer goods that are of great social importance and value. However, with a balanced market and the presence of a deficit, it is difficult to determine the degree of such importance for a very broad range of products. Who can provide a simple answer as to whether or not toothpaste, toilet paper and other items are in fact socially important products? And how can they be ranked according to importance? Thus it was by no means an accident that the category of state orders included even paid services rendered both by a specialized domestic services network and by non-profile enterprises.

The system of state orders was discredited by the priorities employed for ensuring the availability of material resources. Thus it was for this reason alone that the flag for state orders was raised by many ministries even for products supplied on the basis of intra-branch cooperation or for the production of special equipment for satisfying the needs of the enterprise itself. And it is difficult to reproach them under the existing conditions. Indeed, if a state order is not available for special equipment for satisfying one's needs, there may no be funds available for metal.

What is the solution for this situation? We are of the opinion that this question should be raised for discussion during the 19th All-Union Party Conference.

Various Levels for State Orders

It appears advisable to set forth three such levels.

The first—this is when a state order encompasses products of a strategic nature: petroleum, gas, electric power, coal, other minerals, deficit types of metal, progressive machines and items of equipment and other products considered to be of national importance or which have export value. The second level—this includes products which are consumed within the framework of a definite region (clothing, footwear, furniture and others). And finally, the third level—products for local consumption (grain, milk, construction materials, various types of consumer goods and others).

The establishment of such levels enabled the central planning organs and union ministries to concentrate their attention mainly upon the first level. For products included in the second level, they would merely establish delivery quotas for the all-union fund (for example, furniture), provided that for one reason or another this could not be organized by means of direct contacts between the industrial enterprises and trade organizations.

A regional state order, if such a term is correct, would encompass the nomenclature for products in the second level. The proportion of this order would again be determined by the feasibility of centralized distribution for a particular type of product within the limits of a definite region. An order for this level can also partially encompass the products of a state order for the next level.

And finally there is the third and lower level—orders of local planning organs which ideally cover only those products the production of which, for one reason or another, can not be organized on the basis of direct contacts between industry and trade. It bears mentioning that the establishment and development of a wholesale trade in materials and means of production will undoubtedly promote a reduction in the range of products being supplied on the basis of "regional" or "local" orders.

Wholesale Trade in Operation

The rapid implementation of a conversion over to wholesale trade in the means of production was mentioned in the Theses of the CPSU Central Committee as one of the problems upon which complete realization of the principles of the economic reform is dependent. But in order to achieve such a conversion in action rather than in words and to realize a full return from wholesale trade, a number of "knots" must also be untied. In particular, it is known that directive planning and funded logistical support, being mutually interrelated, nevertheless function each according to its own rules. Meanwhile, production on the basis of state orders and wholesale trade must exist on the basis of common laws. Figuratively speaking, we have here two arms of the same body.

Unfortunately however, the conversion over to wholesale trade is still taking place apart from the restructuring of planning and from other economic levers. At the present time, several variations for converting over to wholesale trade, particularly the departmental and territorial types, are under close scrutiny. The departmental variant, which presupposes a conversion over to unlimited support in material resources for individual enterprises and even entire ministries, is being employed most extensively. But is this innovation proving its worth in all instances? Alas, not completely. Actually, an increase in the supplies of commodity stocks is being observed at enterprises which operate under these conditions. It was

wrong to expect anything else under the conditions imposed by the action of the expenditure economic mechanism, in which the suppliers clearly followed the principle of moving as many goods as possible to an enterprise's warehouse.

I consider still another method to be the most effective means for improving the organization of wholesale trade in material resources. The following circumstance is deserving of attention. A considerable number of consumers are utilizing a small quantity of a definite type of resources. Thus, for example, specialists have estimated that sulphur is being used by enterprises and organizations which are subordinate to 80 departments. However, the lion's share of this product (approximately 99 percent) is being used by enterprises of eight departments. A similar situation prevails in the case of metal, wood and construction materials.

What does this tell us? It tells us that the introduction of wholesale trade should have started not with the principal consumers but rather with the small ones—those who are not the principal users of a particular type of resource. And this will immediately solve two tasks. First of all, reductions in the supply of material resources by numerous consumers not considered to be the principal ones will be eliminated and normalization of their economies will ensue. Secondly, a sharp reduction in the consumption of materials will take place at these enterprises. Guaranteed support will enable them to reject surplus supplies.

And certainly, the conversion over to wholesale trade must constantly be accompanied by the "placing in operation" of the anti-expenditure economic mechanism. It is my opinion that one large mistake at the present time has to do with the fact that enterprises are being converted over to a self-financing regime in an incomplete manner and under conditions involving uncoordinated restructuring of planning and converting of consumers over to wholesale trade. In the final analysis, this can result in our economy marking time for several more years.

[7 Jun 88 p 2]

[Text]

A New Organ: "For" and "Against"

In the Theses of the CPSU Central Committee and the 19th All-Union Party Conference, mention is made of how the economic reform is slipping for all practical purposes in many directions. This fact forces us to seriously ponder whether or not Gosplan, Gosnab, Minfin [Ministry of Finances] and Goskomtrud [State Committee on Labor] will be able to overcome the gravitational attraction. Certainly, this applies first of all to the union level of these elements. However, the trend towards a slowing down is clearly being seen at the republic level.

Quite often there is a simple explanation for this and it amounts merely to a fear on the part of some departments of losing their prestige in society, which subsequently could threaten them with the loss of certain personal privileges. What can be said in this regard? Certainly, the subjective factor must be taken into account and yet it appears to be that the "root of the evil" is not reflected in it.

What must be done? Some economists have already expressed their considerations on this subject in the central press, considerations favoring a single working organ for administering the restructuring of the economy. Indeed, restructuring, which is a revolution, requires revolutionary measures. I am fully in support of this proposal. In terms of its overall features, such an organ may resemble—for goodness sake, do not smile reader—the extraordinary committee for combating counter-revolution, which functioned in our country during the initial years of Soviet rule. However, this time it should be an economic all-union (or republic) extraordinary committee (EVChK).

Certainly, a number of objections may be raised at this point.

The first. It was felt that the functions of such a parallel organ are carried out by union and republic governmental committees for improving planning and administration of the economic mechanism, headed by gosplan chairmen. However, closer acquaintanceship with the work of these committees reveals that this is not true. Although formally they are inter-departmental organs, nevertheless they serve to provide reports and to promulgate the draft decrees and various methods and statutes which are prepared in the departments which represent the committee. A type of powerful kulak for providing strong protection for decisions deemed suitable for each department emerges.

Here is just one example drawn from the work of such a committee in our republic. A number of enterprises, when converting over to self-financing conditions, expresses a desire to select a cost accounting model oriented towards gross income, which it bears mentioning is authorized by the Law Governing an Enterprise (Association). This model makes it possible to coordinate in a reliable manner the final operational results of enterprises with the wages paid to workers. The Neringa Production Association for Cultural Products, which had expressed a desire and readiness to introduce this form of cost accounting into its operations, on several occasions listed to reports delivered during meetings of the mentioned committee. But the Ministry of Local Industry, foreseeing additional problems, succeeded in imposing its own decision and is delaying the association's conversion over to the new cost accounting model.

It is my opinion that such a committee, in its present form, is unable to guide or exert an active influence on the course of economic restructuring. This requires an

unbiased organ that is capable of objectively evaluating a situation, handing down a decision and weighing the results obtained in an impartial manner.

A second possible objection. The idea of creating a new superstructure organ may turn out to be unattractive owing to its bureaucratic "taint." It is maintained that the administrative staff is being reduced and simplified and yet here we have a proposal for a new unit. It is believed that such an objection is groundless for the reason that the functions which are to be transferred over to the new organ are presently being carried out, one way or another, by party organs. And this is truly so. However, owing to the economic incompetence of many party workers, the operational questions concerned with restructuring are often being solved in a superficial and hasty manner. It is for this reason that the desired results are not being realized.

In addition, the biased departments, urged on by a fully understandable desire to appear better, are at the present time distorting the true status of affairs. Moreover, the present administrative apparatus and its production relationships are based upon commands and directives. And certainly it looks after its own departmental interests. Is it capable of extracting itself from the dangerous quagmire of economic lack of interest? Thus it is my opinion that a superstructure organ is needed, one which will be free of any and all manifestations of subjectivism or departmental profit.

Here an objection is foreseen. Some specialists believe that a correct path and true approach will nevertheless emerge from a broad discussion of many questions and decisions. Is this a reasonable assumption? However, there is just one question—when? In the process, an evaluation should be undertaken of the amount of nervous energy that will be expended by society in this regard, while glancing backward constantly may serve to finally extinguish the flicker of hope among people for an improvement in economic affairs. Activation of the economic science is not expected to produce true results. Many recommendations by scientist-economists have become bogged down and will remain bogged down on ministerial and departmental desks.

And finally, the last point to be made. Will the creation of an organ invested with extraordinary rights bring about a revival of the command style, but only from the other side as the saying goes? I believe that the reality of such a danger, given the conditions imposed by democratic and open examination of the course of economic restructuring, is not very great. On the other hand, the existence of such a danger will aid in bringing about a rapid de-bureaucratization of the administrative methods and style and "urge on" both the upper echelons of economic authority and the direct production collectives to restructure their operations in the spirit of the times more rapidly and more thoroughly.

What Will the EVChK Be Like?

I would like to share some thoughts concerning the structure of the proposed EVChK. In my opinion, its nucleus must obviously consist of scientists, whose efforts are today appearing in many printed publications and scientific works. Beyond any doubt, its work must be carried out by experienced economists and practical workers who are thoroughly familiar with the intricacies and structure of the present economic mechanism. Removed from their own departmental environment and rescued from the inevitable intra-departmental paths, many planners, financiers, workers and other specialists, with doubled energy, will be able to join in the creative work of realizing the ideas of the radical economic reform.

What functions will be assigned to the EVChK? Generally speaking, they will include the following.

First of all, it will define the practical measures to be employed for implementing the strategic program for restructuring the economy. The experience accumulated in introducing complete cost accounting and self-financing in the national economic branches clearly underscores the vital need for rejecting the approach employed for this work by the ministries and departments.

Secondly, the development and realization of an efficient model for the transitional period, one which will make it possible to ensure synchronous activities for the individual trends concerned with restructuring of the economy. The existence of such a competent conductor, which the EVChK could become, would make it possible to achieve completeness and consistency in the measures for restructuring the managerial system.

Thirdly, the conversion of enterprises over to the new conditions for economic operations as they truly become ready for such action. A campaign approach in this area only compromises on the whole the correct idea concerning complete cost accounting and self-financing. Using a figure of speech employed by the well known economist P. Bunich, only the spectre of self-financing is today roaming about the country. For a number of reasons and circumstances which cannot be overcome by a valiant attack, economic relationships within the principal element of the national economy continue to remain unchanged.

And the last point. An important function of the EVChK is an all-round summary and evaluation of the results obtained during the course of introducing the new managerial conditions and conducting economic experiments. Only an unbiased view from the side can provide an objective and correct picture of the status of affairs in this area, since evaluations by the ministries and departments responsible for a particular economic sector will inevitably be interpreted in a distorted mirror of their interests. Nor is there any point here for hoping for

printed publications. The range of fluctuations in evaluations, when reflecting the course of economic restructuring on the pages of newspapers and journals, is simply startling: from naively enthusiastic, produced by self-hypnosis and hypnosis, to those which are hopelessly neglected. In the process, the profound processes escape from one's field of vision.

I believe that the proposed EVChK can be created in our republic irrespective of a decision being handed down regarding this question at the union level. The overcoming of the braking mechanism, which came to light during the initial stage in restructuring of the economy, requires unusual measures.

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'Kommunist' Editor Latsis Cites Need for More Decisive Restructuring

18200277a Moscow NEDEL'YA in Russian No 27,
4-10 Jul 88 pp 6-7

[Interview with Otto Latsis, delegate to the 19th All-Union Party Conference, doctor of economic sciences, and first deputy editor-in-chief of the journal KOMMUNIST, by Maksim Karpinskiy: "The Economy and Restructuring"; date and place not given]

[Text] As we develop and deepen the economic reform, we must complete the formation of the new economic mechanism, bring the principles of the reform to every primary work collective and to every work station. People's motivation to achieve the highest end results and to completely overcome leveling must be sharply intensified.... (Excerpt from the Resolution of the 19th All-Union CPSU Conference)

[Otto Latsis] Everyone knows how the conference went. In particular, that it revealed a large diversity of approaches to solving the most urgent problems of restructuring. Which is why I will not at this point undertake to offer any sort of summary assessments.

I can say on the basis of my personal impressions that during these days I have probably for the first time seen with my own eyes how many people there are in the country who are not only sincerely interested in the success of restructuring, but are also capable of making a real contribution to renewal of the life of society.

I am referring first of all to those who are caught up in the very heart of the practical economy, those who truly hold in their hands the fate of its transformation—the workers, kolkhoz members, and managers of production at various levels. Speaking from the rostrum at the conference, they displayed in my view a level of truly civic-spirited thinking, an understanding of the real problems and an awareness of what our strength is and what our weaknesses are, that many wise men in Gosplan and Sovmin have simply never dreamed of.

I especially remember the third day of the conference in this connection. A. Aydak, chairman of the Kolkhoz "Leninskaya Iskra" in Chuvash ASSR, a practitioner with a quarter of a century of experience in conducting economic activity, spoke like a real theoretician. He posed what seemed to me the most important question—about the right of the state to appropriate and distribute the property of the entire people. Why are ministries and departments still continuing to spend money without control which they did nothing to earn? The possibility of disposing of what belongs to the people as though it belonged to no one has to be taken away from the administration once and for all, because this system of distribution of the national income has nothing in common with a socialist system.

Rolling mill operator V. Yarin of the Nizhnyy Tagil Metallurgical Combine also spoke about this, presenting briefly and in plain words what essentially was a treatise on the theory of socialism. Labor, and only the labor of the direct producer, lies at the base of everything our society has. Notions to the effect that the state creates something and presents it as a gift to the people are fundamentally wrong. It gives nothing, it merely does a good or poor job of distributing what the working people have created. Their role in the life of the country must be defined accordingly.

Gas industry worker V. Nizhelskiy of Novotroitsk found an excellent word to express the entire strategy and tactics of the economy which in my view we should now adhere to. He said: "We need to brace ourselves." And not at the expense of the people, but by cutting back inefficient expenditures of the state, above all those which result in irresponsible activity of the administration. Today the state is living beyond its means. After all, we have long known: the rich man is not the one who earns a lot, but the one who spends sensibly.

So that for me personally the most important result of taking part in the proceedings of the conference was that I heard the voice of the party. Not of the administration, but of the multimillion rank and file. On the whole, I think it is to the impression received during those days that both I and most of my fellow journalists will be coming back to again and again.

[Question] How deep and irreversible, in your opinion, are the processes of restructuring today?

[Answer] I will speak mainly about the economy, since that is the area I am professionally concerned with. The most important result is that a comprehensive mechanism of cost-accounting activity, one that is logically linked together in all its main parts, has finally been created. I say "finally" because attempts to do this were made back in the sixties, but they were not backed up by any sort of serious political decisions, and that is why the first steps were not followed by any others. On the contrary, there was a return to the administrative system of administration that took shape back in the thirties.

Today, adoption of the laws on the state enterprise and on cooperation affords sufficiently reliable guarantees that there will be no retreat.

At the same time, it is in my view too early to speak about any real results of restructuring. The decline in rates of economic growth has been halted, and we have stopped at the edge of the crisis. But this still is not the result of a radical reform; after all, it is only beginning, and it will be quite some time before it has its full effect. It seems to me that we must immediately think up additional and more decisive measures to speed up restructuring in the economy.

We cannot simply nurture the hope that the reform will gradually come into its own and begin to bear fruit. People's patience cannot be tried too long. For one thing, they also had to display patience when there was no ray of light. Now that they have been promised restructuring, people naturally become impatient: they expect of restructuring a rise in the standard of living in the near future. Glasnost and democracy are, of course, valuable in and of themselves and indeed have paramount importance. But people can see all of this as empty talk unless they begin to live better, easier, and more comfortably.

[Question] You have written that forced acceleration of rates of economic development, which you refer to as "accelerationism," as a rule has adverse consequences. Won't this need of society for acceleration turn once again into a new cycle of accelerationism?

[Answer] Unfortunately, that is already happening. When I militate in favor of acceleration, I am thinking of more rapid structural revamping of the economy. Instead of that, restructuring is constantly being interpreted as acceleration of the growth of traditional volume indicators. And, of course, the result is just the opposite. These indicators are the easiest "to inflate" without changing anything in the structure, but only increasing production of what is not needed: still more metal, still more products for the warehouse, still more bad tractors, which even now outnumber the tractor operators....

In short, when today we again make a political goal of the percentage of growth of the national income or the volume of industrial output, and then report this as a result of restructuring, what we are doing is not only senseless, it is even harmful. With that approach, as our entire experience in the conduct of economic activity has demonstrated, we do not achieve acceleration. But what we do do is to destroy the spirit of restructuring.

[Question] This reluctance to reckon with real economic needs—what is behind it: the resilience of stereotypes in economic thinking or the inability of the bureaucratic administration to operate differently?

[Answer] Both things. But if in time the stereotypes are eradicated, in my view the administration needs to be radically broken up. After all, the system of ministries that exists now was created precisely for that kind of operation, it simply cannot do otherwise. The established methods of planning and monitoring have had the result that not only is preference frequently given to economically disadvantageous measures, because they are "report-intensive," but they have also generated a kind of "short-term" psychology. I personally have known key officials of ministries and Gosplan who admitted face to face that they are not disturbed about the next 5-year planning period, nor even by the end of the current one: the main thing is to make ends meet this year. There is no question that this kind of psychology will not accept long-range measures to revamp the structure of economic activity.

That is precisely why I feel that the overwhelming majority of industrial ministries are unnecessary under present conditions. This does not mean that we do not need economic centralization, that we do not need centralism of administration. Just as in the past, it is indispensable, but it must be realized through a completely different mechanism in which the decisive role will be played by voluntary agreements of enterprises with one another and with the state, not a forced assignment from top down. We need a centralism that grows up, so to speak, from below, it must have the last word in current affairs. When it comes to strategy, let the authority remain with Gosplan, but precisely in matters of strategy, not when it comes to vermicelli, to use Lenin's expression.

[Question] Incidentally, people spoke about this from the rostrum of the conference. V. Kabaidze, general director of the Ivanovo Machine Tool Building Association, you will remember, and after him certain enterprise directors, supported the proposal to change the system of relations between the producers and the administrators, to finance the administration in exchange for its real services, not fictitious ones....

[Answer] I also heard how many delegates grumbled when they heard that. A man sitting behind me, clearly from the administrative staff of some ministry, said with indignation: I suppose they will reach agreement that they do not even need the Council of Ministers!

After all, during the first 15 years of Soviet power we had no sectoral ministries at all. And at that time the industrial sector was yielding not 4 percent of the annual growth, but as much as 40. And we have had a system in our history of organizations to which enterprises have voluntarily granted means of support on a cost-accounting basis—the trade unions, for example. That system was set up by F.E. Dzerzhinskiy, chairman of the Supreme Soviet of the National Economy, but after his death it was destroyed by the Stalinist economic policy.

We are talking a great deal now about the need for historical memory, so let us remember the real experience of socialist economic activity.

[Question] And if we are to be faithful to historical memory, then surely we should remember that many ideas that today have resounded in the conference were "born back in the sixties." Among the delegates were quite a few practitioners from the economy and economic scientists who back in those years were trying to revive Lenin's conceptions of socialism. They held fast, they did not knuckle under, and today they are back in the fight. Your views, like the views of those journalists who today have become generally recognized leaders of restructuring, were also mainly formed in the period of "the thaw." It would be interesting to know how their destiny and your destiny took shape during the stagnation?

[Answer] It is rather difficult to speak about oneself, much less about others. And is it worth it? After all, those who today are referred to as the leaders of restructuring are simply people who have been able to express rather accurately a certain public opinion, social ideas that have come to maturity. So that it is not as much a question of a specific individual as of his social function, and that is why the ups and downs of the careers of those who perform it do not seem to me so very important.

[Question] Allow me to disagree with you. In what we publish each of us not only expresses public opinion, he also shapes it. And it is quite clear that people want to know more about those through whose eyes they look at the events of today and past years. Which is probably why today we hear the question so frequently: "And where were you earlier?"

[Answer] I still do not think that is a valid question to ask me. This is why. It would seem to silence those who earlier made an honest mistake and said one thing, and now they have revised their views. But it also contradicts the idea of glasnost and simply the nature of human relations. Today is a time for repentance, and we need to be more tolerant toward one another. Let every man say what he wants, but with one invariable condition: if previously you thought and wrote otherwise, then speak about it and explain why you have revised your views.

On the other hand, even those who have nothing to repent also end up as though in a position of being accused in attempting to answer that question. But do we have to be reminded about the kind of system of total science we all lived in? While it was conceived back at the very beginning of Stalinism, it became 100-fold stronger under Brezhnev. And this is understandable—How otherwise to preserve the Stalinist ideology in the absence of Stalinist repressions? The mechanism for maintaining silence became increasingly refined, and there was practically no possibility whatsoever for breaking through that wall.

It would be naive to suppose, then, that the publication of this or that article depended on the personal boldness of the author or editor. Even though Tvardovskiy was afraid of nothing, he was more often than not powerless. I remember that in 1968 I wrote an article for NOVYY MIR—merely a review of the six-volume "Resheniya partii i pravitelstva po khozyaystvennym voprosam" [Decisions of the Party and Government on Economic Matters], published to commemorate the 50th Anniversary of the October Revolution. And all that the review said was there exist not one, as it was then thought, but two economic systems of socialism, the second of which is based on cost accounting. So, divulging this "big secret" and the negligible criticism of the compilers of the collection, headed by Comrade Chernenko, who at that time was head of a department of the Central Committee, for the tendentious selection of documents, proved to be enough for those "above" to let me know—the article would not pass.

I asked Tvardovskiy: "What are we to do? I am not afraid of the consequences, but is it worth swinging our fists for nothing? It is clear that they will not let it through...." And Aleksandr Trifonovich replied: "One thing is clear to me—if you withdraw it, then it certainly will not pass!" I did not withdraw the article. Six times it went into the issue, and six times it "was dropped," until they called up Tvardovskiy and told him—do not put it in, the article will not be printed no matter what you do.

So that we were not silent, but no one heard us, and that is why we wrote more "for the desk drawer," hoping that sometime we would after all be heard.

[Question] But there were after all those who were able to break through the wall, issuing a cry that was heard only once, but loudly. They knew they would burn up like Okudzhava's toy soldiers made of paper, but they still went ahead. And they did burn up, paying the price for their outburst—some forced emigration, some a mental hospital, and some simply by existing in the backwaters. So, what is ultimately more important for social progress—the way Bruno took or that of Galileo?

[Answer] I think they are equally right. There never would have come a time when people began to listen to Galileo if it had not been for Bruno, and without Galileo there would have been nothing to listen to. The way that is chosen depends on personal circumstances, and ultimately personal temperament.

There is assuredly nothing more difficult than Bruno's way. But Galileo's way is also very difficult in its own fashion: you have to watch yourself closely so as not to yield to simple self-preservation for the sake of self-preservation and be able to preserve yourself on behalf of the idea of which you are the bearer.

Either of these ways is ethically justified if it leads to the end chosen. In our situation, that objective is the socioeconomic transformations which have begun in the country.

[Question] Now that the discussion has turned to ethics, it seems we should admit that on the whole the moral health of society leaves something to be desired at present. And this is a question of paramount importance, since economic development is closely related to morality. As our ancestors used to say, distortions in the country's political and economic life, in particular the loss of social ideals, are largely to blame for the decline of ethics. Voices are being raised: Are we not once again digging a pit for ourselves in rejecting wholesale the system of values that has taken shape in recent years?

[Answer] After all, we are mainly ridding ourselves of outdated stereotypes which for a long time have had no real basis, if they ever did. As for social ideals, it is today that we are beginning in a small way to go back to their original meaning. The ideals imposed on us all these years had practically no relation to the true values of socialist society and to its laws of development. This is a typically Stalinist style: reduce the ideals to primitive and vulgar stereotypes and in that form drum them into the consciousness. For example, "Socialism means state ownership!" Is that a familiar slogan? And yet it is untrue. Back under the Pharaohs there was state ownership, but there was no socialism. And Rashidov and Adylov lived for decades under "advanced socialism" and state ownership as though it was an age of early feudalism. So that it is now, by ceasing the drum beat to the effect that everything in our country must belong to the state, that we are finally coming closer to true socialism.

I think that that revival of ideals and destruction of the substitutes that have replaced them can only strengthen morality, since it closes the gap between words and deeds and makes it possible to give up the "double-entry bookkeeping" which has forced us to think one thing and say another.

[Question] The rebirth of ideals, especially when they have been so diligently castrated, is a painstaking process. And yet recovery of the economy is an urgent task. What deformations that have occurred in our world outlook are the most dangerous in your view?

[Answer] I see the main danger in the leveling ideas about distribution. The demand that everyone receive exactly the same regardless of how he has worked or what measure of talent he possesses came down to us from the bad times, when any departure from the standard was viewed as a threat to society, and it is still alive.

Leveling is above all native to the bureaucratic consciousness. The bureaucrat knows exactly that if the worker or—God forbid!—the cooperator earns more

than a minister, then this has to be immediately prohibited. You know the well-known exclamation: "He earns more than a minister!" But, first, this is not true, a worker in our country cannot earn more than a minister in the government if one takes into account not only the minister's salary, but also the many benefits which he has. And second, even suppose that were so, why, one asks, should a man not earn more than anyone else if he really is an excellent worker?

But the saddest thing is not the bureaucratic bias toward leveling. The most dangerous thing is that over long years this psychology has made its way into literally everything. Even people themselves do not want more, nor do they allow others to want it. How many examples we know of where some lathe operator or fitter with genius has become the most mediocre plodder precisely under the pressure of his comrades, who were afraid that their piece rates would be cut. This, of course, is only a deformation of consciousness, although it goes hand in hand with the deformation of economic relations.

07045

Development of Legal Code Urged To Improve State Enterprise Law

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4-10 Jul 88 p 7*

[Article by Vladimir Andreyev, doctor of juridical sciences: "Faster Development of the USSR Economic Code"]

[Text] No, whatever they say, our legal literacy, our traditional neglect of legal norms (and indeed of the law in general) plus a nonchalant reluctance to think and reflect on those legal documents which are today supposed to shape our economic life, which is finally freeing itself of the old mechanism of administrative pressure, will do us no good. Already it is very difficult to bring to production collectives and their managers such an invariable characteristic of the present economic reform as its legal foundation in legislation.

So, if we do not know our rights, that means that we do not exercise them. It means that the law is not operative.

And here you have, as they say, a living and quite warm example—the Law on the State Enterprise, which, as is well-known, has still not begun to operate with full effect. It is exactly as though someone turned off the generators supplying it the motive electric current that gives it life. That is exactly what it is. It is just that we ourselves are that enigmatic "someone."

More precisely, it is those attributes inherent in us today like juridical illiteracy and legal nihilism.

Believe me, I am not laying it on thick at all. I will even go further: the idea that the new economic mechanism has already come into conflict with the low level of our

legal sophistication is lying on the surface. It was even uttered from the speaker's platform of the 19th All-Union Party Conference: "More often than not ministries and departments are allowing departures from the letter and spirit of the Law on the Enterprise, and it is because of them, as many people in the economy acknowledge, that it is not being fully realized," stated the report of the CPSU Central Committee. And all we can do is to ask ourselves: Why is that the case? Why is it "not being fully realized"? Why are the standards of this fundamental legal act not being observed in our work collectives?

I have every reason to say that many workers in enterprises, even those conscientiously attempting to understand the content and purport of the law, have even then not been able to understand its provisions. Even engineering and technical personnel. Although their enterprises have been operating on full cost accounting and self-financing for 6 months now, they do not have a clear idea of the components that make up the cost-accounting income of the collective, how it is formed and distributed, and what are the distinctive features of the first and second models of cost accounting. Precisely because of a poor knowledge of the law millions of people are simply unable to understand the provisions of the Law on the Enterprise properly. And now in the press and over radio and television distinguished scientists and journalists are asserting at the top of their lungs that the Law on the Enterprise is in need of serious revision and that it has become clearly outdated compared to the Law on Cooperation in the USSR. Why, then, study it?!

As a matter of fact, the text of the Law on the State Enterprise is not simple, and in some respects it is also vulnerable. But still this is a sufficiently good basis for the transition to economic methods of conducting economic activity. The law correctly links together the unity and complementarity of conformity to plan and the commodity market. The norms of the law contain various models of present-day methods and forms for management through people's interests. But not one of these models can be realized without the initiative and enterprise of work collectives. And neither exists in spite of the daily appeals to be enterprising. All roads would seem to be open. But no, traditional sluggishness plus elementary inability prevent work collectives from independently setting up the optimum economic ties and from selecting the most advantageous partners in concluding economic contracts. In the years of the stagnation people became accustomed to "not sticking out their necks," to not revealing all of their capabilities, they were satisfied with mediocre figures, and they became accustomed to leveling evaluations of their work. Many workers are simply unable and do not want to allow themselves to take initiative and thereby assume a risk. Even such standards of the law as Article 99, Paragraph 2, of the Bases of Labor Legislation (the version contained in the Ukase of the Presidium of the USSR Supreme Soviet dated 4 February 1988) to the effect that "the decisions of the general work assembly (conference)

made within the limits of the powers of the work collective and in accordance with legislation shall be binding on the members of the work collective and the management, as well as on **superior state and economic authority**, are at present not able to overcome the established stereotypes of thought, to shake people loose and draw them out of the state of inertia.

Yet again, this is still far from everything. Today, we see more distinctly the conservatism of the legal system that exists in our country, a system which, as noted at the party conference, is to a considerable extent "oriented at present not toward democratic and economic, but toward administrative-command methods of management, with their numerous prohibitions and petty rule-making."

As a matter of fact, there are now in effect several tens of thousands of normative acts in the economic area. It is not difficult to imagine that work collectives and their managers are simply not physically able to ever assimilate these standards of the law in view of such an immense and internally inconsistent volume of economic legislation. And, as it turns out, it is not at all mandatory that they know them, these instructions, since they are not always in conformity with the law by any means.

Let us rather be vigorous in undertaking to renew legislation, strictly adhering to the principle proclaimed by the party: Everything is permitted which has not been prohibited by law! Along the way it is worth remembering that this task was set more than a year ago with respect to economic legislation. The Basic Premises of Radical Restructuring of Management of the Economy, approved by decree of the June (1987) Plenum of the CPSU Central Committee, provided: carry out the systematization and codification of economic legislation. Unfortunately, there has so far been no particular success in evidence here.

I think that this effort—especially in that portion of economic legislation which has to be brought into full conformity with the Law on the Enterprise and the Law on Cooperation, would yield the greatest benefit if all the instructions and other normative acts of ministries and departments adopted before these laws were declared invalid without any sort of evaluation as to their conformity to the new economic mechanism. The position of the USSR Ministry of Justice has up to now been—God forbid!—that not a single little paragraph and not a single departmental instruction, even though it may be half a century old, is to be revoked if it in any way is in line with the purport of those legislative acts! And so in practice this "method" has had the result that enterprises have begun to receive from their ministries lists of instructions and orders which have been revoked and are not operative. Just try and practice, comrade plant director, to figure out what you can do and what you

cannot. And I have not even mentioned how much time and energy is spent on this unnecessary work by lawyers and other specialists of ministries and departments.

No, positively, now that we have decided to create a socialist state based on law, we need to draft and adopt the USSR Economic Code. Along with the Bases of Labor Legislation, the Bases of Civil Legislation, it would systematize and codify the most extensive part of Soviet legislation—the economic domain. The laws on the enterprise and on cooperation would serve as the point of departure for summarizing the rules of socialist economic activity for working out the general standards of behavior of enterprises, cooperatives, and other economic entities and their internal subdivisions.

The USSR Economic Code might clearly and unambiguously formulate the principles and methods of management of a socialist economy. Its sections might be devoted to such structures of our economy as economic entities and their subdivisions, the systems for planning and organization of scientific-technical progress, and economic contracts. Nor would a problem like product quality escape its attention.

Of course, any law is a serious matter, requiring both judicious opinion and time. But the pace of our legislative activity is lagging clearly behind the pace of restructuring. Up to now, the absence of the Regulation on Ministries, whose approval has been unforgivably delayed, has had an adverse effect on enforcement of the Law on the State Enterprise. The Regulation on the Council of the Branch has not yet been drafted. We have long needed a Law on the USSR Ministry (State Committee), not an act of the USSR Government, which would put their activity on a sensible legal platform and would possibly put an end to identification of the management function necessary to society with its bureaucratically administrative distortions.

The priority of the law, expressing the will of the people, must inevitably have the result that even the USSR Council of Ministers cannot interpret its content as it pleases, but would itself have to display an example of strict and straightforward enforcement of the acts of the supreme juridical power. I think that adoption of the USSR Economic Code would make it possible to sharply limit juridical "creativity" (I am referring to the normative acts of ministries and departments).

Since the matter does not brook delay, it is evident that we should be quick to create a qualified commission which would include representatives of the USSR Ministry of Justice and the Institute of the State and Law of the USSR Academy of Sciences to prepare the draft of the USSR Economic Code. This commission ought to operate under the direction of the USSR Supreme Soviet, not the USSR Government. It is the supreme body of government that is called upon to perform this

function, recruiting for this purpose scientists and practitioners, as follows from the resolutions of the 19th All-Union CPSU Conference.

07045

INVESTMENT, PRICES, BUDGET, FINANCE

Sector Performance Criticized, Capital Investment Improvement Noted

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pp 21-29

[Article by S. Zhuravlev, head of a sector at the Scientific Research Institute of Economics of USSR Gosplan and Candidate of Economic Sciences: "Reserves for Increasing National Income"]

[Text] An analysis of the operational results of the national economy over the past 2 years reveals that compared to the previous period the rates of growth for the principal indicators are increasing, although not as uniformly or as rapidly as planned. Industrial production on the whole, housing construction and the socio-cultural sphere are developing either at leading rates or at the planned level. At the same time, the rates of growth in national income, a most important summary indicator, and also for the productivity of social labor and the real income of the population are lower than the planned tasks (and the average annual level for the 11th Five-Year Plan). The year 1987 turned out to be especially unfavorable in this regard.

In view of the fact that today we are confronted by the task of not only increasing the rates but also of achieving new quality in this growth, an analysis of the results must provide answers to the questions: what factors are contributing to economic development, what is the true meaning of each additional ruble of national income and what was its cost to society? In the process, importance is attached not only to comparing current results against those for the previous period or against the planned goals, but also to establishing exactly what reserves can be used during the remaining years of the five-year plan.

One of the leading trends in economic development, as outlined during the 27th CPSU Congress, is that of accelerating the structural reorganization of production. It is expressed in a substantial increase in the final results per unit of resources used, particularly fuel and raw material resources. Accordingly, the 12th Five-Year Plan was oriented towards strong structural improvements in the structure of production and in the selection of the goods being produced and towards a considerable increase in the output of the processing branches of industry as opposed to the fuel and raw material branches. Unfortunately, the planned goals were not fully realized during the first 2 years of the five-year

plan. Moreover, substantial differences exist in the manner in which the planned tasks are being carried out by some branches and inter-branch complexes of industry. Thus an acceleration was achieved in the work being carried out by the fuel and raw material branches (particularly the energy-fuel and metallurgical complexes) and this made it possible to eliminate tension in the operations concerned with supplying the national economy with these types of products. However, a substantial lag developed in the planning tasks for the development of machine building and light industry and also the chemical-forestry complex. Table 1 provides data on the average annual rates of growth in industrial production by complexes, a comparison against the past five-year plan and also information on the extent of the tasks for the successful completion of the current five-year plan.

Table 1 (in percent)

Indicator	1981-1985 (actual)	1986-1987 (actual)	1988-1990 (needed for carrying out the 5-year plan)
Industrial output on the whole	3.7	4.4	4.7
Output by complex			
fuel-energy	2.1	3.3	2.5
metallurgical	2.1	3.0	2.0
machine building	6.2	6.0	8.4
chemical-forestry	4.2	4.4	4.9
construction materials	3.0	4.2	2.9
light industry	1.6	1.7	5.2
food industry	3.4	4.2	2.0

The lag in machine building is arousing special concern. True, it bears mentioning that definite stockpiles for strengthening its production base were created in 1986-1987. The proportion of capital investments in the civilian branches of machine building, compared to the overall volume for installations of a production nature, increased from 6.2 percent in 1985 to 6.7 in 1986 and an improvement took place in the supply of metal. But the planned rates of growth for production were not achieved. And the planned quality improvements in output have still not been realized. Although the tasks were fulfilled in terms of the level of its renovation (9 percent in 1987 compared to 7.6 percent as called for in the plan) and yield for the most important types of products at the international level (49.3 compared to 38.9), nevertheless the proportion of the complex's export deliveries did not increase and amounted to 4-5 percent of the overall production volume. The planned tasks for the use of a number of basic resource conserving technological processes were not carried out and, as a result, the disruption in the rates of growth for the processing and extractive branches did not increase but to the contrary it decreased.

The structural reorganization of production in other branches was carried out more slowly than planned. In particular, an acceleration in the development of a number

of branches engaged in the production of construction materials was achieved during the first 2 years of the five-year plan not on the basis of planned progressive improvements, but mainly as a result of an increase in the volumes of traditional products, which to a large degree were not in keeping with the modern technological requirements. Thus, in ferrous metallurgy, in the face of an above-plan increase in the production volumes on the whole (an average annual increase of 3.1 percent compared to a planned figure of 2.2 percent), the tasks for the production of electric steel, poured billets on continuous casting machines, high-strength pipe and progressive types of rolled metal were not fulfilled. In 1987 alone, the production of high grade cold-drawn steel fell short by 40,000 tons and steel cold-rolled band—by 14,000 tons. At the same time, 900,000 tons of rolled metal on the whole were produced in excess of the plan. This required an increase of 2 million tons in the plan for steel production and 1.4 million tons for cast iron. As a result, there were additional expenditures for ore, coke and others.

In the chemical industry, the enterprises of USSR Minneftekhimprom [Ministry of the Petroleum Refining and Petrochemical Industry] (average annual increase 2.5 percent, compared to 2.1), USSR Minkhimprom [Ministry of the Chemical Industry] (6.0 compared to 5.4) and USSR Minudobreniy [Ministry of the Fertilizer Industry] (6.1 compared to 5.3). At the same time, the planned acceleration in the development of polymer production never took place: the production of synthetic resins and plastics fell short by 180,000 tons and chemical fibers by 80,000 tons (3 and 5 percent of the planned volumes respectively). The production of synthetic rubber remained at the 1985 level. In order to overcome the lag that has developed, a considerable increase is needed during the 1988-1990 period in the absolute increases in production achieved during the first 2 years of the five-year plan. For example, the production of resins and plastics must be doubled.

In 1987, the wood-working and pulp and paper industry did not fulfill its planned tasks for a majority of its types of products. The greatest lags were tolerated in the production of cellulose (5.7 percent), cardboard (5), plywood (6.7) and lumber (3.3 percent). The production of progressive types of construction materials was developed at a slower rate than that planned.

The lag in the rates for structural reorganization in the production of construction materials is substantially increasing the overall requirements for the products involved and it is seriously hindering the concept of effective resource-conservation development of the economy. Owing to the need for modifying the materials being made available for machine building, construction and other consumption branches, large amounts of waste materials are appearing, resource losses are taking place and the pool of metal cutting machines and other items of equipment is unjustifiably becoming larger. All of this is making it difficult to raise the production potential of the processing branches. International comparisons can testify directly to

the extent that the structure for construction materials fails to meet the requirements for modern scientific-technical progress. Thus the USSR surpasses the U.S.A. in the smelting of steel by a factor of 2.1, cast iron—2.9 and rolled metal—by a factor of 1.75. On the other hand, it lags behind by more than 80 percent in its production volumes for sheet zinc-covered steel, by 74 percent—in tin plate and it also lags behind substantially in the production of high strength pipe, metal powders and other progressive types of metal products. We also lag behind substantially in the use of modern technologies for the production of metal and, as a result, our expenditure of steel per ton of rolled metal during the 1970-1986 period actually did not change and amounted to 1.4 tons in 1986. In the U.S.A., this figure declined by 26 percent (1.18 tons), Japan—by 15, the FRG—by 10 percent (in these countries, it approached 1.05-1.06 tons). On the whole, the level of metal intensiveness per unit of national income is more than twice as high as the figures for the U.S.A. and the FRG and higher by a factor of 1.4 than the figure for Japan. We lag considerably behind developed countries in the production of polymer construction materials: our production of plastics is only 19 percent of the American level and the situation is even worse with regard to the production of reinforced and special plastics, polymer coatings, sheet metal and pipe made out of thermoplast and glass-fiber-reinforced plastic and metal protective coverings. The USSR's lag in the production of progressive types of timber materials is only slowly declining. Here our yield of finished products per unit of raw material is considerably lower than that of other developed countries: for example, of 1,000 cubic meters of hauled wood in the U.S.A., 4.5 times more cellulose is produced (in Finland and Sweden—more by a factor of 5-57.); plywood by a factor of 7; paper by a factor of 4.4. With the volumes of construction-installation work in the USSR and the U.S.A. being relatively equal, the amount of ferrous metal being consumed for this purpose is less by a factor of 2.2 in the U.S.A., cement—by 1.6-1.7, construction brick—by a factor of 10-12 and reinforced concrete—less by a factor of 6-7. At the same time, the use of aluminum rolled metal in the U.S.A. is greater by a factor of 15-20, polymer materials—by 10, steel structures—by 2-3, effective heaters—by a factor of 2.5 and others. These comparisons indicate that the reserves available for improving the structure for the production and consumption of construction materials in our country are tremendous and yet by no means are they being utilized fully.

On the whole, it can be stated that the acceleration in the growth of industrial production during the first 2 years of the five-year plan was achieved mainly as a result of an increase in the output volumes along traditional lines and in the face of an inadequate and in some respects a lowered intensity of changes in the production structure. This implies retention of the entire complex of problems that accumulated during past years, problems associated with disproportions in the economy, low effectiveness in the use of resources and unsatisfactory quality in the products being produced.

In carrying out the tasks of the 12th Five-Year Plan in terms of the principal indicators, an important role must be played

by the conversion of the economy over to the intensive path of development, in which a stable improvement in results compared to the total amount of expenditures for live and materialized labor becomes its chief source. As yet, the indicators which characterize improvements in the effectiveness of use of labor and material resources (in an average annual computation) have not achieved the planned level and during the remaining years of the five-year plan the rate at which they change must be increased substantially (see Table 2).

Table 2 (in percent)

Indicator	1981-1985 (actual)	1986-1987 (actual)	1988-1990 (needed for carrying out the five-year plan)
Productivity of social labor on the whole	3.6	3.1	5.0
—Including in industry	3.1	4.3	4.7
Output-capital ratio per national income produced	-2.9	-2.1	-0.6
Material intensive- ness of social product	-0.5	-0.2	-1.3

The increase in labor productivity was achieved mainly as a result of organizational-economic factors. Today only a portion of the measures for curtailing the use of manual labor, reducing losses in working time and personnel turnover and expanding the practice of combining professions has been realized. Among such measures, we should single out first of all the conversion of approximately 19 million individuals over to the new wage conditions in 1986-1987. As a result, approximately 280,000 individuals were released from their jobs in transport alone and in USSR Minnefteprom—80,000.

Nor were improvements realized in the work of raising the effectiveness of use of fixed productive capital and capital investments intended for their reproduction. The trend towards a reduction in the effectiveness of their use, which took place over an extended period, was partially stabilized throughout the national economy as a whole and it was only in certain branches that this process was reversed. For example, the rates for lowering the output-capital ratio in industry declined by almost one third in 1986-1987 compared to the average annual figures for the 1981-1985 period. Progress in improving the use of capital was noted in the machine building complex, where in 1985 growth was observed in the output-capital ratio and also in the chemical-forestry complex and in the construction materials industry. The drop in the effectiveness of use of fixed capital is still continuing in other branches of industry.

The principal reasons for the continuation of the trend towards a reduction in the output-capital ratio—low level of use of production capabilities and a lack of balance in the development of related branches. As is known, during previous five-year plans the negative consequences displayed an imbalance in a lack of coordination in the introduction of capabilities in the extractive and processing branches. It was the result of an increase in the production potential of the processing industry under conditions involving a sharp reduction in growth (and in some years even a collapse) in the procurement of fuel and raw material resources. Moreover, there was practically no increase in the effectiveness of use of the raw material products produced, resource conserving technologies were introduced into operations on an inadequate scale and increases were also noted in unproductive expenditures and in fuel and raw material losses. In addition, the disproportions were aggravated to a large degree by systematic non-fulfillment of the planned indicators for placing production capabilities in operation in the raw material branches. In the final analysis, all of this led to an increase in the difficulties being encountered in providing material support for production and to a deterioration in the use of existing and newly introduced fixed capital in the processing industry.

Over the past period of the current five-year plan, a number of favorable processes, favorable from the standpoint of improving the inter-branch balance, were observed. As already mentioned, a noticeable acceleration was achieved in developing the fuel and raw material sector of the economy and particularly the branches of the fuel-energy and metallurgical complexes (for example, the increase in the extraction of petroleum during a 2 year period amounted to 5.1 percent compared to a reduction in 1985). Progressive improvements were noted in the branch structure of the fuel-energy complex (leading growth of atomic energy, the gas industry and so forth). Compared to the previous period, the scales for savings in raw materials and other materials increased somewhat. All of this created definite conditions for their providing support for the capabilities of the processing branches and, as a result, raising their output.

However, a basic change in the situation is being hindered by a number of factors: excessively large sphere of wasteful consumption of resources at the present time, inadequate rates for the introduction of resource-conserving technologies and for the replacement of the obsolete and inefficient portion of the production apparatus and the still high and increasing requirement of the national economy for expanding the extraction of mineral raw materials. As a result, the degree of support for production capabilities in the form of material resources, particularly newly introduced capabilities (especially as a result of new construction), remains low. Thus, whereas in 1983 it amounted in industry, according to data obtained from a sampling analysis, to approximately 88 percent of the planned level, at the beginning and during

the first year of the current five-year plan it even declined somewhat: on the average up to 85 percent of a number of industrial enterprises studied (approximately 4,600 installations) and for installations introduced into operations as a result of new construction—only up to 77 percent (with use being made of 75 percent of their capabilities).

One peculiarity of the present five-year plan lies in the fact that the center of gravity in solving the problems concerned with raising production efficiency is shifting towards achieving a stronger balance in the development of mutually related elements of certain national economic complexes. A lack of coordination within the complexes adversely affects both their own operations and the national economic rates of growth and production efficiency. An example of this would be the disproportions in the agro-industrial complex which occurred in past years in the development of its branches and in the distribution of resources among them. Moreover, a desire was often noted to compensate for the inefficient functioning of the APK [agro-industrial complex] system through an increase in the production volumes. This did not produce the proper results, but it diverted the material and financial resources.

During the first years of the 12th Five-Year Plan, the problems of intra-branch balance assumed a special urgency. In particular, they constituted one of the principal causes of unsatisfactory work by the machine building and chemical-forestry complexes (owing to a lag in capital construction, the leading branch here, and a lack of coordination for the placing in operation of the planned capabilities of new installations and the extended periods required for mastering them. These disproportions were aggravated by tense tasks which were not always properly calculated, tasks aimed at increasing and renovating output and fixed capital and which many complexes were unable to cope with (mainly owing to the absence of a flexible system for the planned distribution of the workload among new and renovated enterprises).

An improvement in the return from the production potential is being seriously hindered by the continuing tense situation in the area concerned with supplying the national economy with labor resources. The country's economy entered the present five-year plan at a time when it was aggravated by considerable disproportions between the accumulated volume of fixed capital and the possibility of utilizing it efficiently with the aid of the existing labor potential. According to the data obtained from an inspection of a representative group of enterprises (approximately 4,900 installations), in 1965 more than 62 percent of their overall number were not fully staffed with appropriately skilled personnel: the degree of their staffing on the average amounted to only approximately 76 percent of the number of personnel called for in the plans. Moreover, the capabilities of these enterprises were being used on the average at the rate of only 74 percent of the planned level.

An analysis of the work of some enterprises and branches of the processing industry, the planned capabilities of which in the past could not be mastered over a considerable period of time, reveals that in many instances the availability of working positions for personnel possessing the proper skills improved somewhat. Thus, compared to the beginning of the five-year plan when the staffing of USSR Minstankoprom [Ministry of the Machine Tool and Tool Building Industry] with personnel amounted to approximately 85 percent of the planned level according to data obtained from a sampling analysis, by 1986-1987, for a comparable range of enterprises, it had increased almost to 98 percent. This made it possible, at the mentioned enterprises, to increase substantially the output production volumes and to improve the use of production capabilities from 71 percent in 1985 to 79-80 percent in 1986-1987.

On the whole however, notwithstanding the favorable conditions that had been created, no substantial improvements took place in connection with ensuring the availability of labor resources for existing and especially newly introduced capital.

The chief role in overcoming the prevailing disproportions in the national economy (increasing in many instances) between the fixed capital and man-power, in conformity with the accepted concept of the plan, was played by the renovation of the obsolete production apparatus and the release of resources which were not being utilized in an efficient manner. At the beginning of the current five-year plan, these processes were truly activated somewhat, although not to the same degree as called for in the five-year plan. According to data for 1986, the coefficient for the retirement of fixed productive capital was raised to 2.1 percent (compared to 1.9 percent during the 11th Five-Year Plan, including in 1985). In conformity with plan computations, by 1990 it must be raised to 3.1 percent. Some improvements were noted in the replacement of fixed capital in industry: the withdrawal of industrial-production fixed capital on the whole increased from 1.4 percent in 1985 to 1.8 in 1986, including in the active portion—from 2.3 to 2.8 percent.

At the same time, the intensive replacement of fixed capital has still not intensified the balance or, thanks to this factor, resulted in more complete utilization of the reserves for existing production. The most important causes of such a situation: a not always sound system for selecting the priorities and stages for the replacement of obsolete means of labor; errors in administering the replacement system, which in a number of ministries led to the vicious practice of the distribution among their subordinate enterprises of planned tasks for the replacement of worn out equipment (moreover, at times in the absence of proper consideration of the status of their fixed capital); insufficient concentration on the whole of the still limited resources for replacement in those production sectors and technological elements, which under present conditions are definitely continuing the existing disproportions and hindering the release of reserves. The

rates achieved at the beginning of the five-year plan for accelerating the replacement of worn out and obsolete means of labor are not in keeping with the requirements. If they are continued in the future, the successful fulfillment of the program for the technical-technological renovation of production, as outlined for the five-year plan, may be threatened.

The scales for the replacement of obsolete capital in machine building, electric power engineering, the petroleum-gas and chemical industry and a number of other branches are most inadequate. A need exists in these branches for repeated increases in the absolute volumes of obsolete means of labor withdrawn from operations, compared to the actual volumes. The tasks established in the plan for the replacement of worn out and obsolete equipment are not being carried out in all areas: for example, the 1986 plan for renovating the pool of metal-cutting machines in machine building was fulfilled by 96 percent (including in USSR Minstankoprom—less than 86; USSR Minavtoprom [Ministry of the Automotive Industry]—75 and USSR Minzhivmash [Ministry of Machine Building for Animal Husbandry and Fodder Production]—79 percent).

It bears emphasizing that the lag in the rates for replacement of fixed capital took place despite a considerable reorientation of capital investments for the modernization and technical re-equipping of existing enterprises. During the first year of the five-year plan alone, investments for the mentioned purposes increased by more than 25 percent and in 1987—by 7 percent. Moreover, the degree of their development was rather high—103 percent and in some branches—considerably greater (for example, by a factor of almost 1.4 in machine building in 1986). Compared to the overall volume of capital investments in production construction, their proportion increased up to 43 percent in 1986 and up to 46 percent in 1987 (compared to 33 in 1980 and 38.7 percent in 1985).

The reason for the slow replacement of obsolete capital lies in the low effectiveness of use of resources intended for current production and the continued orientation of such resources, just as in previous years, not towards the replacement of obsolete means of labor but rather for accumulating a pool of equipment. This is borne out in particular by an analysis of the improvements in the technological structure of capital investments: in 1986, there was almost no change in the proportion of equipment relative to the overall equipment volume compared to the 1983-1985 period. Quite often, an expansion in production is continued under the guise of modernization.

Among other equally important reasons—lack of readiness of the appropriate resource base for the investment complex for an abrupt and rapid reorientation of capital investments towards existing production. It was revealed during the initial years of the five-year plan in connection with a change in the priorities for investment

practice. The slow increase in the volumes of work carried out using the economic method serves to confirm directly the mentioned circumstance. This trend is also borne out by the considerable extent to which the national requirements for machines and equipment on the whole are not being satisfied and also by the definite technical-economic characteristics. The shortages in these areas during the current five-year period have been aggravated by the non-fulfillment, by a number of machine building ministries, of the planned tasks for increasing the production of the required items of equipment.

The large reserves for increasing national income are associated with an improvement in the real savings of each ruble in both the savings fund and the consumption fund. In actual practice, this must be expressed in overcoming the hidden inflationary tendencies which manifest themselves in an increase in cost for a unit of production capability placed in operation and for installations of a housing and socio-cultural nature, in structural and assortment improvements in commodity turnover in favor of products having a higher proportion of profit and turnover tax in the price and so forth. A need exists for eliminating the inefficient use of elements of the national income which raise the cost of unfinished construction and the supplies of uninstalled equipment, compared to the dynamics for capital investments, and which also increase the supplied of unsold consumer goods. Losses and unproductive expenditures must be lowered considerably. Recently they have increased more rapidly than national income and the final social product.

We will limit ourselves merely to an analysis of the improvements in real savings in the savings fund and in capital investments. Although we have still not realized any substantial changes in this area, nevertheless definite positive tendencies have been noted. During the 1986-1987 period, construction-installation work in the productive sphere increased by 4 percent and in the non-productive sphere—by 25 percent (on the whole, for the 11th Five-Year Plan and compared to the 10th Five-Year Plan, these increases were 0.5 and 13.2 percent respectively). The fulfillment of the plans for placing fixed capital in operation improved somewhat. Commencing in 1985, the supplies of uninstalled equipment will be reduced, albeit by only a negligible amount: by 1.1 percent in 1985 and 3.8 percent in 1986. However, the absolute volume of uninstalled equipment will still remain considerable (13.9 billion rubles worth in 1986) and surpass the indicator for 1980 (13.5 billion). The supplies of uninstalled import equipment are also high (4.8 billion rubles in 1986).

It bears mentioning that, just as in the past, the lag in real results from investment activity caused by an increase in its cost indicators is continuing. This is being manifested in an increase in cost per unit of production capability placed in operation and in a reduction in the power equivalent from the placing in operation of capital and

also in an increase in the specific capital expenditures for erecting installations of a housing and socio-cultural nature (in particular, the average cost for one space in general educational schools increased by 20 percent compared to 1980, in pre-school facilities—50, one bed in medical institutes—by almost 40 percent). The result of such a situation—only a negligible increase (and in many instances even a reduction) in the final results of investment activity in a natural expression (according to a power equivalent), with substantial growth in capital investments and the placing of capital in operation according to cost.

An important characteristic of the final results in the investment sphere—the degree of conservation of resources in unfinished construction. The ratio of its volumes to capital investments for all practical purposes did not change during the 1986-1987 period and remained at the 1985 level. On the whole, its proportion exceeds the normative established for today and, as a result, considerable resources are accumulating in above-normal unfinished construction. True, in recent years its volume, in terms of the actual cost in prices for the respective years, decreased from 25.5 billion rubles in 1980 to 10.2 billion in 1985 and to 9.5 billion rubles on the average from the 1986-1987 period. But in the process the normative for unfinished construction for the national economy on the whole increased substantially. Moreover, in 1987 the volume of above-normal unfinished construction once again increased by 2.3 billion rubles compared to the previous year. This was all the result of the continuing serious disproportions in capital construction, which lead to a dispersion of capital investments and to a lengthening of the average schedules for the erection of installations.

In turn, the latter appear as one of the chief sources for the circulation of disproportions throughout the national economy, since the initial balance in the coordination of related capabilities is disrupted.

During the current five-year plan, just as in past years, a low level of planning work in capital construction has hindered the ability to overcome the lack of balance in the investment process. The lack of proportionality in this sphere commences with non-coordination of the construction projects and installations included in the plan with the capabilities of the construction-installation organizations and the material and financial resources allocated. Such a situation is associated to a large degree with existing practice, wherein the ministries correct the initially approved planned tasks for capital construction through the additional inclusion of installations not introduced into the plan for the year being reported upon (the year which has just ended). As a result, an erosion as a rule takes place in the balance coordination initially called for in the plans for the tasks for placing fixed capital in operation with the required resources and the available construction capabilities.

The implementation of measures started during the current five-year plan for reducing the construction schedules and limiting growth in the total estimated cost of construction, in the interest of eliminating a dispersion of capital investments, must promote the elimination of the disproportions that develop and an increase in the degree of balance for the investment process. It has already produced definite results: the proportion of newly begun construction in the estimated cost for construction projects declined in 1987 to 4 percent, in capital investments in a construction project—to 5.2 (during the last five-year plan, the average figures were 5-6 and 6-8 percent respectively); a number of carry-over construction projects and installations were temporarily closed. Thus, in 1987 work was temporarily halted or construction was terminated on approximately 2,500 construction projects and installations the estimated value of which was in excess of 4 million rubles each. Moreover, the total estimated cost of installations of a production nature (front of construction) included in the plan decreased by 16.1 billion rubles compared to 1985 and by 18.3 billion rubles worth of residual estimated cost, when the annual capital investment limit was increased by 14.6 billion rubles.

However, despite the decisions handed down calling for the temporary closing or cessation of construction on a number of installations which did not conform to the modern requirements, no real or large-scale changes for the better took place at the beginning of the five-year plan. In our opinion, this resulted from insufficient consistency in the carrying out of the developed policy. The low effectiveness of the measures implemented is borne out by the fact that the average (computed) period remaining for the completion of construction on installations of a production nature included in the plan was reduced roughly by only 8 percent, with the actual duration of the investment cycle at the present time exceeding the average, according to established norms (approximately 4 years), by almost twofold.

The opportunities for raising the degree of balance for the investment process by narrowing the front of work for today have by no means been exhausted, since a considerable portion of the installations planned and under construction are still characterized by a low technical level. For example, during the course of an analysis by USSR Stroybank [All-Union Bank for the Financing of Capital Investments] of 645 plans for various construction projects, it was revealed that the planning decisions for more than one half of them (327) were not in keeping with modern requirements as they apply to the level of the technical-economic indicators. The problem concerned with making more efficient use in the future of installations on which construction has been halted is becoming urgent in nature.

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REGIONAL DEVELOPMENT

BSSR: Light Industry Quality Control Success Viewed

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[Article by Ye. Ponarina, special correspondent of SOTSIALISTICHESKAYA INDUSTRIYA: "Anatomy of Quality"; first paragraph is SOTSIALISTICHESKAYA INDUSTRIYA introduction]

[Text] My friend pulled at my sleeve: "You are going to Minsk? Buy a knitted blouse for my daughter. It is made of pure cotton and costs less than 3 rubles. There are no such blouses in Moscow." Yes, many heard this and some saw for themselves: The situation with goods in daily demand is easier in Belorussia than in the country's other regions. Their assortment is wider and they are made better. All the more, in firm stores there is something to rest one's eyes on. They do not give things for next to nothing here, but, in my, the customer's, opinion, price them honestly. So that Belorussia's experience is interesting in itself. First, however, about how these problems are formed throughout the country.

Price of Price Markup

Judging from reports, the situation with quality has become better here. Let us take sewn products subject to certification. Last year money received for things with N, MOL, and OM indices, that is, considered new, youthful, and highly fashionable by industry and trade, comprised 70 percent of the proceeds from their sale. But readers complain all the same: What we want to wear is not available. Who is right? What is the reason for the differences in views?

In such cases an outside view is interesting. What do people say "there," for example, abroad.

Exacting a higher price for every, the least bit passable, article from a fellow countryman, our sewing industry exports tenths of a percent of its creations to the international market. And not because "it is not possible," but because it is complicated to sell our "novelties" and "high-fashion clothes" even as ordinary articles.

This is the true price of a price markup.

In such a situation a temptation arises: To attain the desired quality, scaring the producer with supervision. In fact, state acceptance engages in this. Money is not spared for it. It has choice personnel and salaries of more 200 rubles. It has maximum rights and minimum responsibility. State acceptance is like Caesar's wife—beyond suspicion. If with its arrival the enterprise's fines drop even if by 1 ruble, this is to the credit of state acceptance. If after the check trade returned a commodity, production workers are to blame for this.

Not long ago I had occasion to attend a big all-Union conference. In the opinion of the enterprise workers that gathered there, in 80 out of 100 cases state acceptance undertook only the functions of the punisher. It chose fines for a violation of all-Union state standards as the main weapon. It was not even important what a violation this was. At the Zarya Sotsializma Flax Combine the quality of terry towels was lowered only because they were 1 cm... longer than the norm.

Funny? No, sad, when specialists with diplomas watch over the output of one-kopeck pads, bags, or gloves for vegetable growers. At the same conference Yu. Papiyan, deputy chief of the Administration for the Development of the Knitwear Industry of the RSFSR Ministry of Light Industry, declared: Expenditures on state acceptance in his subsector are 3.6-fold higher than the fines paid for the faults of production workers.

Having heard this, one will cease to ask why state acceptance is at fewer than 80 enterprises out of the 2,100 associations, combines, and factories of the USSR Ministry of Light Industry. It does not prove worthwhile.

So, down with state acceptance? Let us wait with conclusions. Better, let us analyze on what quality is based. Why, for example, in Belorussia the customer has greater confidence in the price and believes that price markups are not in vain. Why does the republic ask the USSR Ministry of Light Industry to permit it to sell more than 3 percent of its goods for export. Yes, in the Union, a fraction of a percent, but here, 3. To what is the success due?

In What Way Are Our Goods Inferior?

Yes, not the BSSR Ministry of Light Industry, but the republic's Council of Ministers raised the following question so openly: In what way are our goods inferior to imported ones? At first complaints were the answer: There is a shortage of this and that... Then A. Petrov, former deputy chairman of the BSSR Council of Ministers, approached the matter from another end. He asked that one shirt be sewn from domestic fabrics. As in a museum. Can the necessary raw materials be scraped together for one shirt?

They were. The shirt was sewn. Appliques, a pair of pockets, and a collar whiter than snow were stitched on... However, on the scheduled day Petrov was busy and told the people to come in a week. The "museum exhibit" was taken out of the cabinet and measured: The collar shrank and the stitches were with gathers!

Remembering that time, the participants in the events laugh loudly. And then... Then an objective discussion of quality began in Petrov's office.

In developed countries quality is determined according to the ability of a commodity to retain the attained level of esthetics during use. We did not even set such tasks for

ourselves! Therefore, the elegant shirt was stitched with threads, whose shrinkage was sixfold higher than that of the fabric. That is why not yet worn articles lost their appearance. All the more, after the first wash.

That memorable conference ended with a briefly formulated assignment: To learn to make from domestic fabrics things not worse than imported ones.

But what does "not worse" mean? Where is the standard? The samples offered by Soyuzpromvnedreniye were not suitable for this. "Perhaps they can be licked," Z. Nadina, chief of the Quality Administration of the BSSR Ministry of Light Industry, laughs. "But we had to tear them to pieces and wash and clean them in order to understand why we lose. We went begging to our Ministry of Trade and wheedled permission to purchase three samples of the best new articles from wholesale bases. We left one at the commission under the Council of Ministers for control. We handed over the second to the appropriate House of Models—let them find out in what lies the spark of the innovation and the charm of elegance. We turned over the third to a laboratory under a leading enterprise. The physical-mechanical properties of materials, design, and technology were analyzed there."

"At times we discovered America for ourselves!" V. Ivoylova, chief engineer at the Belorussian Fashion Center, says. "We used to judge the thread by 3 parameters, but it turns out that the world judges it by 25. We sewed a man's suit, making do with 11 components, but leading firms use 33. And so with every type of assortment. Whatever thread is pulled, there is a lump of problems behind each one. Try and disentangle them! Were it not for the active support of the Council of Ministers during that period, it is unlikely that we would have attained results."

But there are results. Not 11, but 29, components of a man's suit are manufactured in the republic—they have learned! There is a standard bank. There are almost two dozens of specific programs of Trikotazh [knitwear], Bryuki [trousers], and "Tkani" [fabrics] types. Realizing them, the republic's industry approaches in terms of quality the best imported articles.

The first cotton-dacron threads for shirts produced by the Grodno Spinning Thread Association, fine mixed yarns for shirts of the Baranovich Cotton Association, and firm ribbon for finishing coats of the Mogilev Ribbon Weaving Factory appeared. In the same Mogilev the Khimvolokno Association provided sewing industry workers with wear resistant synthetic lining. Minsk cloth workers produced thick woolen cloth with an inclusion of angora wool for women's coats and of a tweed design for men's coats.

Only such materials are now used in the output of high-quality articles, whose label has the note "reliable in use."

I heard about this even before I arrived in Minsk. To be honest, I did not believe this too much. The administrative-strong-willed method, owing to which success was attained, disturbed me.

"Go to Komsomolka," I was advised at the USSR Ministry of Light Industry. "They exemplify well how cost accounting helps to fight for quality. The best 'order' from above would not work if its aim did not coincide with the interests of every collective. They don't have state acceptance and, apparently, will not have it. They don't need it. With an annual output of articles worth 96 million rubles the return from trade makes up only 0.002 percent. Fines amount up to... 400 rubles."

Having heard these figures, I involuntarily compared them with all-Union figures for the sewing sector—8.7 percent. In Armenia, Azerbaijan, and Georgia the return reaches 25 to 28 percent. In essence, every fourth sewn article is rejected. There is a difference. However, does Komsomolka sell its articles abroad?

"To Mongolia," general director A. Bionchik answers. "Why not to Europe? Because, in the opinion of Europeans, we are working with materials from the last century."

"Understand us correctly," chief engineer L. Ivanova hastened to join the discussion. "The fabrics that the Frenchmen criticized severely are the best corset fabrics in the Union. Our most reliable supplier—the Lipyaya Curtain-Tulle Combine—makes them especially for us. With what understanding people react to our requests!"

"Why do they love you so much? Do you have personal ties?"

"We have direct ties based on cost accounting. This is one. And people also want to step from the 19th century at least to the 20th century. This is two. Incidentally, it is difficult to say what is the first and what is the second here. Many have conflicts with suppliers. We, however, prefer to thank and give incentives for every attempt to make something better than ordinary."

"For example, we have a subcontractor in Kiev," L. Ivanova continues. "He constantly used to send porolon with yellowness. It can be used neither for black nor white lace. We traveled, explained, and asked—'we can't,' they said. Suddenly, half tones of the whitest porolon arrived! We immediately sent them a bonus. I don't remember if it was 500 or 1,000 rubles. It came out of the profit. If we didn't do it each time when the supplier 'jumped above his head,' who would try? After all, precisely the people who work specifically with us receive money. We see to this. We don't want to give away the money we earn to just anyone."

Yes, it seems that strong-willed pressure existed at first, when it was necessary to move the stone from the place. Constant efforts were needed in order to roll it to the goal. It was necessary to push and push tirelessly. Cost accounting provided the forces, that is, the means, for this.

Nevertheless, why in Belorussia did the transition to cost accounting result in an expanded assortment, an improved quality, and a more or less substantiated rise in prices, whereas in some other regions did not?

To Pay Only for the Job!

The Belorussian model of cost-accounting relations has its own particular feature: Quality, not an agreement between industry and trade, determines prices here. We would like to note that this quality is measured not by eye, not according to an obsolete all-Union state standard, but as compared with the standard. Even if one type of the initial material is worse than in the sample, the price cannot be the same as of the standard. In general, not a single markup higher than 15 percent is now approved in the republic without an examination of a commodity's consumer properties in the Belorussian Fashion Center. In addition to houses of models, it includes the Testing Center of Consumer Goods, which has developed on the basis of sectorial research laboratories at enterprises—the same, where the first standard samples were torn, washed, and rubbed.

The testing center believes that the price should be determined not on the basis of the shortage of a commodity and external efficiency, but of consumer properties. Here quality is determined not by the threat of punishment, but by the desire to make something well and by knowledge—how to make it.

The republic has also changed over on an experimental basis to new relations between industry and trade, "to trust." It follows the "shop-counter" pattern, bypassing the stage of product quality control at the wholesale base. "Trust" is preceded by a careful check on the reliability of quality, when a representative of the wholesale base sits at a factory and looks over every finished thing. However, after such control a wholesale organization is forbidden to reject it. The store or the base has the right to return a thing only if there are specific defects. And if such a thing is found, the fine for it is double the ordinary fine.

When such control was introduced in the Sewing Association imeni Krupskaya, in 1 year the return was reduced by a factor of 2.5, now amounting to 15 or 20 coats.

"And to what extent was it lowered with the introduction of state acceptance?" I ask.

"It was not lowered," general director V. Laskevich answers.

"But I heard that state acceptance forced you to organize a dyeing section and now all the trimmings on your coats are in harmony: buttons, braids, cords, and tabs. This is good."

"It may be good, but there are no good results!" the general director does not contain himself. "The expenses and the results are not comparable. In its present form state acceptance is of no use. No economy will withstand three control layers. Two should disappear."

"State acceptance is the first?"

"No, state acceptance should remain. The technical control department will disappear. With the intensification of cost accounting it will dissolve in contract collectives. Outside inspectors will not be needed when cost accounting reaches every person. Trade control should also be reduced to a minimum, to the 'shop-counter' system."

Laskevich is right. There are already examples with the technical control department. I recalled an article by an engineer from the Novosibirskmebel Association in our newspaper. Yes, not only Belorussia, but also the Ukraine, Moscow, and Leningrad, are already working on the basis of "trust."

What should the medium-level control link—state acceptance—become under these conditions?

"A comrade in arms," Laskevich is developing his thought. "I believe that what our testing center is doing today should be entrusted to state acceptance. It should determine and coordinate standards for the entire sector and control the organization of work on improving quality. The new relations with trade will become the logical conclusion of this work. After all, trust is not simply the lack of many layers of control. Trust is freedom. But how can one speak today of freedom if one is all tied up? Contracts with trade stipulate everything: fabric, grade, sketch, color, model, size, height, dates, prices... There is a fine for any change. Yet it is possible to operate like the Orsha Sewing Factory."

Yes, not for nothing do people talk about workers at the Orsha Sewing Factory. For 7 years they have been concluding by the GDR method a contract with trade for a group assortment and in rubles. This looks as follows: The factory undertakes to deliver skirts of certain sizes and for a certain sum by a specific date. What kind—this is the concern of the enterprise. It studies demand. They are not sold? The enterprise takes them back and pays a penalty from its profit. Need it be said what a blow to the economy this is under cost-accounting conditions?

"In contrast to them," Laskevich continues, "we are without rights today: Trade on an equal basis with us decides to what model should the OM markup be given and to what, not. However, once we decide together, we

should also be responsible together. But, in fact, no. If the decision is erroneous, industry alone pays for the miscalculation. And the fine settles entirely in the trade department."

"Do you want to share troubles?"

"No, we want to assume full responsibility. We will ourselves decide what is good and what is bad. And we ourselves will be responsible for our decision."

Such a quality control system is being formed in Belorussia. It rests on three whales: on knowledge how to attain the desired quality, on the second cost-accounting model enabling the enterprise to dispose of profit at its own discretion, and, finally, on new mutual relations with trade. The role of the testing center should be noted especially. Today under conditions of monopoly production it really protects customers' interests.

So long as the market is not saturated, the thirst for profit, in no way the quality of a commodity, determines the price. Society, which has hundreds of billions of unbartered money, is not capable of opposing a rise in prices by means of market relations. A shortage gives rise to dictation by the producer. The testing center restrains a rise in prices, not permitting the hand to be thrust into our pocket shamelessly. Furthermore, it directs industry toward overall development, as a result of which it is possible to meet the customer's needs more rapidly and fully.

This experience requires attention, not vain—its rapid dissemination—but thoughtful. Belorussians themselves do not consider it sufficiently strong for this. In essence, only directions in the fight for quality have been outlined and ways have been approved. It should be stressed that the attention of the republic's Council of Ministers to the quality of light industry articles is not accidental. In recent years Soviet bodies in Belorussia have systematically engaged in the production of consumer goods, including in sectors of group A. As a result, today heavy industry enterprises produce many such articles—worth 73 kopecks per ruble of wages. However, the task is ruble per ruble.

Another matter should not be disregarded. Experience always rests on the ability and attitude of specific people toward an undertaking, on the energy of V. Ivoylova from the Fashion Center, on the indefatigability of Z. Nadina from the republic's Ministry of Light Industry, and on the readiness of many other people to act and, if necessary, to risk.

Perhaps such regional centers should also be established in other places and equipped with tools and methods? The fight for quality should be concrete. Only then is there hope for obtaining a real return.

Economic Development Faulted in Azerbaijan

Council of Ministers Report

18200220a Baku BAKINSKIY RABOCHIY in Russian
11 Jun 88 p 2

[Article: "In the Council of Ministers of the Azerbaijan SSR"]

[Text] The Council of Ministers for the Azerbaijan SSR has examined the results of fulfillment of the state plan for the republic's economic and social development for January-May and the tasks for fulfillment of the plan for the first 6 months of 1988.

In discussing this problem, it was noted that the republic's workers, after having launched a socialist competition for worthily preparing for the All-Union Party Conference, achieved a further increase in the rates of growth in production for the January-May period of this year. In conformity with a state order and in accordance with direct contracts with consumers, the contractual obligations for deliveries of products were fulfilled by 99.2 percent compared to 98.2 percent during the January-May period of last year. Compared to 1987, the proportion of enterprises that did not fulfill their contractual obligations declined from 24.3 percent to 10.4 percent. A considerable number of associations, enterprises and organizations achieved 100 percent fulfillment of their contractual obligations. The rate of growth in industrial production was 4.2 percent. The profit plan for the January-April period of this year was fulfilled by 111 percent and 79.7 million rubles worth of savings over and above the plan was realized. Increases were noted in the procurements of meat, milk and eggs. Increases also took place in the volumes of commodity turnover, paid services and others.

At the same time, some of the republic's ministries, departments, associations, enterprises and organizations did not draw the proper conclusions from the repeated criticism directed at them and they did not ensure full use of their production reserves and available potential. During the January - May period of 1988, 58 enterprises fell behind in carrying out their contractual obligations, they undersupplied consumers in the amount of 41.2 million rubles worth of products, with associations and enterprises which converted over to the new managerial conditions being responsible for almost 91 percent of this volume. The plans for deliveries were not fulfilled by the Azneftekhim, Orgsintez, Sintezkauchuk, Prompribor, Geofizpribor and Azertransformator associations, by enterprises of Minlegprom [Ministry of Light Industry], Minpromstroymaterialy [Ministry of the Construction Materials Industry], Minlesprom [Ministry of the forestry industry], Glavzhivprom, Gosagroprom [State Agro-Industrial Committee], plants of Azerelektroizolit, the Stepanakert Electrical Equipment and Condenser Plant and others. Of 33 most important types of industrial products, the plans for 16 were not fulfilled.

The sales of livestock, poultry and milk declined in some regions of the republic. The 6-month plan for placing fixed capital in operation was fulfilled by only 35 percent and mastering of the limits for capital investments and construction-installation work was not achieved. A lag was tolerated in the construction of underway projects of Minstroy [Ministry of Construction], Agropromstroy, Glavzmeliovodstroy, Minavtotransport [Ministry of Motor Transport] and others.

Owing to fault on the part of Mintorg [Ministry of Trade], Azerititfak and others, the 5-month plan for retail commodity turnover in state and cooperative trade was fulfilled by only 94.9 percent and 113 million rubles worth of goods were not sold to the population. The plan for providing paid services for the population was underfulfilled by Minbyt [Ministry of Consumer Services], Gosagroprom, Minzhilkommunkhoz [Ministry of Housing and Municipal Services], Azerititfak, Goskino [State Committee for Cinematography], Minlegprom and others. During the five month period, the population failed to receive 33.6 million rubles worth of paid services, including domestic services valued at 11.4 million rubles. A tense situation continues in the area of monetary circulation.

The Council of Ministers of the Azerbaijan SSR has obligated the leaders of ministries and departments in the Azerbaijan SSR, the Council of Ministers of the Nakhichevan ASSR, the Executive Committee of the NKAO, the executive committees of rayon and municipal soviets of worker's deputies and associations, enterprises and organizations throughout the republic, while being guided by the decisions handed down during the 27th CPSU Congress and the 21st Congress of the Communist Party of Azerbaijan, to analyze thoroughly the results of fulfillment of the plan for the January-May period of this year, to undertake measures aimed at correcting the shortcomings uncovered and to ensure unconditional fulfillment and over-fulfillment of the planned tasks for the first 6 months and for 1988 on the whole. In the process, it must be borne in mind that effective factors and reserves for improving the republic's economic and social development must be placed in operation this year and in a manner such that the positive results already achieved will be consolidated and multiplied. New goals from the standpoint of quality must be achieved and worthy preparations must be made for the 19th All-Union Party Conference.

The attention of the leaders of Minlegprom (comrade S.M. Ibragimov), Minmestprom [Ministry of Local Industry] (comrade G.S. Fataliyev), Minpromstroymaterialy (comrade R.D. Sadykov, Glavzhivprom of Gosagroprom (comrade F.R. Mustafayev, the associations Orgsintez (comrade N.B. Babayev), Sintezkauchuk (comrade Z.M. Guseynov) and Prompribor (comrade B.M. Panakhov) was directed to the serious shortcomings noted in the work of subordinate enterprises and to the non-fulfillment of plans for the principal technical-economic indicators and they were required to change

radically their attitude towards their work, to undertake urgent measures aimed at restoring proper order, to recover the ground lost since the beginning of the year and to ensure unconditional fulfillment of the plan for the first 6 months of 1988.

At the same time, appropriate instructions were issued for intensifying operations in the agro-industrial complex, for radically improving the status of affairs in capital construction and for the practical realization of the measures called for in the areas of trade, domestic services for the population and in the sphere of services.

The draft state plan for the economic and social development of the Azerbaijan SSR and the republic's state budget for 1989 were examined and approved for the most part. With further work to be carried out on the 1989 plan, Gosplan, individual ministries, departments, associations, enterprises and organizations were tasked with undertaking measures which would ensure that they would reach the task level for the five-year plan for all of the principal technical-economic indicators, with special attention being given to increasing to the maximum possible degree the production volumes for consumer goods and paid services for the population.

A review was also undertaken of the manner of fulfillment of the all-round program for developing the production of consumer goods and the sphere of services by the executive committees of the Sheki municipal and the Narimanovskiy Rayon (city of Baku) soviets of people's deputies and on the work being carried out by the executive committee of the Agdzhabedinskiy Rayon Soviet of People's Deputies for the development of cooperative and private trade activities, in light of the decisions handed down during the June (1987) Plenum of the CPSU Central Committee and the decisions adopted in connection with this subject. The leaders of the executive committees were made aware of the existence of serious shortcomings in the work they were performing in these areas.

Poor Performance in Nagorno-Karabakh
18200220a Baku BAKINSKIY RABOCHIY in Russian
11 Jun 88 pp 1-2

[Article: "Consolidating Positive Trends in Economic Development"]

[Text] Only a few days remain prior to the 19th All-Union Party collective. A reevaluation of values is taking place today in each labor collective and openness and truthfulness in the evaluation of phenomena and events, intolerance of shortcomings and a desire to improve the status of affairs are becoming more strongly entrenched as active and effective principles. An important stage of restructuring is that of implementing the party's social policies and improving the well-being of the people.

On the threshold of the 19th All-Union Party Conference, the republic's labor collectives have increased their activities and, according to the results of the January-May period of this year, they have achieved further progressive development for all branches of the national economy. Industry in the Nakhichevan ASSR and in the cities of Baku, Mingechaur, Sheki and Lenkoran and enterprises of the fuel-energy and machine building complex have developed at high rates. On the whole, the volume of industrial production increased by 4.2 percent compared to the same period for last year.

The dependence of the financial status of enterprises upon the final results of their operations has been made stronger and, accordingly, interest in achieving the required level of profit as the chief source for the resources needed for the production and social development of collectives has been raised. The plan for this important indicator was fulfilled over the course of the past 3 months. During the 5 month period, the republic's industrial enterprises obtained additional savings amounting to 6.3 million rubles. The plans for the production of consumer goods were fulfilled.

At the same time, existing shortcomings in the work being carried out by a number of ministries, departments, associations and enterprises are being corrected only slowly. Full use is not being made in all areas of the advantages offered by the new economic mechanism. Contractual discipline has been weakened somewhat. The level of fulfillment of deliveries was 99.2 percent, or less by 0.1 percent than the level achieved over a period of 4 months. Movement along the restructuring path is being held up by enterprises which have fallen behind, the number of which, despite a reduction, continues to be quite high. Contractual obligations have been violated by 58 enterprises, or by 10.4 percent of their overall number. They failed to supply 41.2 million rubles worth of products. The republic's Minlegprom [Ministry of Light Industry] and the Orgsintez Association were responsible for more than one half of this amount. Delivery discipline is also low in such associations as Azerelektrosvet, Azertransformator, Prompribor, Geofizpribor, Bakstankoprom and others.

The tasks for the production of important types of products, as called for in a state order, are being carried out in an unsatisfactory manner. Of 126 such products, the tasks for 50 types have been disrupted. Included among them—alternating current electric motors, power transformers, light engineering equipment, high voltage equipment, metal cutting machines, rubber, wall materials, reinforced concrete products, cotton fabrics, knitted goods, footwear, whole milk products, meat and others. The situation with regard to contractual discipline in a number of regions throughout the republic is improving only slowly (see Table).

	Percent of fulfillment of contractual obligations	Proportion of enterprises which did not fulfill their delivery plans (in percentages)	Products not delivered (in thousands of rubles)
Nakhichevan ASSR	99.9	3.8	71
NKAO	82.9	50.0	11.625
Baku	99.6	14.0	10.796
Kirovabad	99.3	7.4	1.840
Sumgait	98.3	19.0	8.179
Mingeaur	97.1	33.3	3.194
Ali-Bayramly	99.8	6.7	110
Lenkoran	99.4	6.2	41
Sheki	94.8	7.7	6.742
Yevlakh	100.0	-	-

Economic leaders must clearly understand that any breakdown in contractual obligations results in definite disproportions in the national economy and disrupts the rhythm of collectives which are operating in a stable manner.

During the period which has just passed, many enterprises tolerated reductions in their volumes of industrial production: Glavuprpushcheprom—23 percent, Minkhleboprodukty [Ministry of Grain Products]—1.1 percent, Azerkhlopkoprom RPO—12.5 percent, Orgsintez Association—16 percent, Khimprom Association—6.4 percent, Azneft Association—15 percent. The maintenance of the production volumes at the level for the past year, by the mentioned branches and associations, would have allowed the republic as a whole to achieve a rate of growth of 5.5 percent instead of the 4.3 percent as called for in the task. The problem concerned with improving output quality continues to be urgent in nature. A turning point in this important work has not been achieved in all areas. During May of this year, 14.7 million rubles worth of goods were rejected by state acceptance upon initial presentation. This represented 7.7 percent of the total amount of goods presented for acceptance. During the January-May period, 0.4 million rubles worth of goods were finally rejected. The situation with regard to quality was adjudged to be unsatisfactory within the Bakstankoprom Association, at plants for petroleum industry equipment, at Azerelektroizolit, at the Baku Tire Plant and at the Machine Building Plant imeni G. Musabekov.

Despite fulfillment of the profit plan throughout the republic as a whole, the financial situation remains tense in Minlegprom [Ministry of Light Industry], Minstroy-materialov [Ministry of Construction Materials Industry] and Azglavenergo. Owing to mismanagement and weak organization of labor and production, the industrial enterprises paid out fines and sanctions in the amount of 45.6 million rubles during a period of only 4 months. The greatest amounts were paid by Minlegprom (9.4 million rubles), Gosagroprom [State Agro-industrial Committee] (7.5 million rubles, Minmestprom [Ministry of Local Industry] (0.7 million rubles and Orgsintez PO [production association] (2.6 million rubles).

The indicators for fulfillment of the plan for profit and rates of growth in production volumes for the Nakhichevan ASSR, the NKAO and cities throughout the republic are described by the following data:

	Rates of growth in production volume (in percentages)	Fulfillment of profit plan (in percentages)
Nakhichevan ASSR	108.1	106.8
NKAO	82.8	58.9
Baku	104.4	102.7
Kirovabad	104.3	99.3
Sumgait	100.8	108.4
Mingeaur	110.4	95.3
Ali-Bayramly	92.9	75.5
Lenkoran	109.0	110.7
Sheki	112.2	97.4
Yevlakh	96.2	89.1

A considerable lag was tolerated by industry in the Nagorno-Karabakh Autonomous Oblast. During the 5 month period, 25.4 million rubles worth of goods were not delivered, a figure which was greater than the monthly program for the region. In conformity with the state order and direct contractual relationships with consumers, the level of fulfillment of contractual obligations for output deliveries amounted to 82.9 percent for the oblast as a whole. The value of the products that were not delivered amounted to more than 11.6 million rubles. Karshelkokombinat [Karshi Silk Combine] violated contractual discipline in the amount of 3.9 million rubles, Stepanakert Electrical Equipment Plant—by 1.9 million rubles, Stepanakert Footwear Factory—by 2.5 million rubles and the Stepanakert Meat Combine—by 0.3 million rubles. The status of affairs in May of this year was especially aggravated. During this month, the plan for industrial production was fulfilled by only 48.4 percent and the value of the goods not produced amounted to almost 11 million rubles. The disruption in established tasks had an adverse effect on the economic status of enterprises throughout the oblast, many of

which are experiencing tremendous financial difficulties and are having to pay considerable economic penalties for failing to supply products in keeping with the established schedules. Some of them may turn out to be insolvent debtors with all of the attendant consequences.

The work of the construction complex is being restructured extremely slowly. Just as in the past, a concentration of resources is not being achieved at national economic installations which are in progress. The 6 month plan for the placing in operation of fixed capital was fulfilled by only 35 percent. The tense situation that has developed with regard to carrying out the construction program for the month of June is borne out by the fact that almost 500 million rubles worth of fixed capital must be turned over in order to fulfill the 6 month plan. This figure is greater by a factor of 1.8 than the amount that was introduced during the previous 5 months. Work is proceeding unsatisfactorily in Minstroyaterialov, Glavzmelioovodstroy, GlavUKS of the Council of Ministers, Gosagroprom, Minzhilkommunkhoz [Ministry of Housing and Municipal Economy] and Bakgorispolkom [Baku Municipal Executive Committee].

A lag has developed in the carrying out of work at underway projects included in the nomenclature of the state order. Insufficient use was made of the capital investment limits for 16 out of 29 installations and with regard to the limits for construction-installation work—17 of the 29 installations.

Many ministries, departments and local organs are still not attaching proper value to the political importance of finding a solution for the housing and social problem. We are still encountering instances of installations of a housing and socio-cultural nature being placed in operation in an irregular fashion. As a rule, the majority of such installations are placed in operation during the last month of the quarter. During 5 months of this year, only 7 percent of the schools and pre-school facilities, 9 percent of the hospitals and 41 percent of the dispensary-polyclinics called for in the 6 month plan were actually placed in operation. The plans for June call for almost the same amount of housing space (203,000 square meters) to be placed in operation as was made available during the previous 5 month period. The placing in operation of large volumes of housing space must be ensured by Bakgorispolkom (46,600 square meters),

Gosagroprom (28,300 square meters), the Sumgait (27,100 square meters) and Kirovabad (6,100 square meters) gorispolkoms [municipal executive committees], Kasmorneftegazprom BPO (7,000 square meters), the Council of Ministers of the Nakhichevan ASSR (8,900 square meters), Glavzmelioovodstroy (7,000 square meters) and others. Just as in the past, the quality of the construction remains low.

Difficulties are continuing in the area of satisfying the effective demand of the population for consumer goods. Almost one out of every five enterprises has failed to reach the task level for the production of non-food goods, with the value of the goods not delivered to the trade network reaching 10.7 million rubles. The enterprises of Minlegprom, Minkhleboproduktov [Ministry of Grain Products] and the Orgsintez Association alone account for almost one half of this shortage. The trade organizations and organizations for providing services for the population are only slowly and sluggishly restructuring their operations in the spirit of the new requirements. The plans for retail trade turnover and for providing paid services, including domestic services, are systematically not being carried out. The value of goods not sold to the population reached 113 million rubles, mainly through fault on the part of Azerittifak and Mintorg [Ministry of Trade]. Minbyt [Ministry of Consumer Services], Gosagroprom, Minzhilkommunkhoz, Goskino and others were guilty of failing to provide 33.6 million rubles worth of paid services as called for in the plan, including 11.4 million rubles worth of domestic services.

All of this is creating serious difficulties in normalizing monetary circulation within the republic and it is arousing fair criticism among the population with regard to the work being carried out in the sphere of trade and paid services.

Each production element and each labor collective must make full use of the great opportunities being made available by the new economic mechanism and reinforce the positive trends in economic development. All energy and all creative initiative must be directed towards recovering lost ground and maintaining the rhythm of the annual plan. In short, everyone must increase their efforts.

AGRO-ECONOMICS, POLICY, ORGANIZATION

Self-Financing Problems in Turgay Oblast Discussed

18240111 Alma-Ata PARTIYNAYA ZHIZN
KAZAKHSTANA in Russian No 6, Jun 88 pp 73-78

[Interview with M.I. Keldibekov, director, Turgay Oblast Agricultural Experimental Station, by V. Gryaznov, correspondent: under "The Agro-Industrial Complex Must Undergo Intensive Development" rubric: "The Goal Is Self-Financing"; date and place not given; first paragraph is PARTIYNAYA ZHIZN KAZAKHSTANA introduction]

[Text] The new methods of economic management are being implemented more and more firmly. Nowadays not only hundreds of industrial enterprises, but also all sovkhozes and kolkhozes in East Kazakhstan, Kustanay, and Chimkent oblasts are operating on the principles of self-support and self-financing. At the same time an active search for new variants of an organic merger of the new forms of production management and local conditions is likewise being carried out in other regions of this republic. The necessary experience is being accumulated, in particular, by the Turgay Oblast Agricultural Experimental Station, which has already been operating on a self-financing basis for a year. What kinds of problems has this collective had to come to grips with? This is the subject of our correspondent's interview with the station's director, M.I. KELDIBEKOV.

[Question] Mereke Ilyasovich, after operating under the new conditions of economic management, you can already determine their pluses and minuses. Wherein lies the principal difficulty in making the transition to self-financing?

[Answer] The term "self-financing" must be used in conjunction with the term "self-support." Sometimes they are even confused, although each of them has its own, strictly defined meaning. So, for example, in order for an enterprise to become self-supporting, it needs to attain a specific level of production efficiency and resource utilization. But it is impossible to increase these indicators without a multi-faceted development of cost-accounting relations and the introduction of contracts, without improving the interconnections among the financial, departmental, and credit systems. This is the main thing in the radical reform of administering the economy. And we, in getting ready to make the transition to self-financing, have taken into account the level of our production facility's self-support, as well as the condition of its economy.

This experimental station has been operating at a profit for many years now, and it has attained quite a high level of intensification. We obtain 3,400 kilograms of milk from each grazing cow; the average daily weight increase of our cattle amounts to 579 grams, while for pigs it

comes to 343 grams; the grain-crop yield has been brought up to 19.6 quintals per hectare, while that of vegetables has reached 403 quintals. These are fine indicators. Computed on the basis of an average, year-round agricultural worker's output, the gross product amounts to 12,000 rubles. Moreover, labor productivity is increasing more rapidly than wages. Throughout all the years of its existence this experimental station has not once been in debt to the state. To be sure, we use short-term credits from Gosbank, but we always return them on schedule. And so, during the course of the 11th Five-Year Plan there was no such item as payments for loans in our expenditures. The farm receives annual profits of approximately 2 million rubles.

In other words, the points of departure for introducing the new forms of management at this experimental station were favorable. Nevertheless, before making the transition to self-financing we conducted a more profound analysis of the state of the economy. The task consisted of precisely defining for ourselves, so to speak, our short-term and long-term goals. By short-term goals we understand ensuring our self-support. Without dwelling on specific figures, let me just note that this concept includes not merely reimbursing the income spent in producing our commodity output. Self-support must also provide for expenditures on social and cultural measures, payments to the budget, making up for various kinds of losses, paying out bonuses, etc. Therefore, with self-support production profitability must be at least 18-20 percent, and with full self-financing it must amount to 32-35 percent. These tasks were widely discussed; the communists, section leaders, and specialists concentrated their attention on bringing them to the awareness of each grain-grower, livestock-raising, and builder.

[Question] Already during the past five-year plan this experimental station attained a profitability level of 50 percent, and during 1986 it was more than 48 percent. Does that mean that the necessary prerequisites which you mentioned have been created and reinforced?

[Answer] Such a question can be answered satisfactorily in the affirmative. But that does not mean that the prerequisites, even though strongly established, have begun to function automatically. With self-financing we need complete, all-encompassing cost-accounting in each production section. And it must be said that purely internally, psychologically, we have not yet arrived at complete cost-accounting. The conditions for making the transition to self-financing existed on this farm as far back as five or six years ago. But it has only been in the last two or three years that we have carried out any persistent work along these lines. At present all the field-crop cultivation brigades and many units in livestock raising have been converted to cost-accounting. But here we have encountered a problem—how should the motor-vehicle garage, for example, be converted to cost accounting? On the other hand, the existing forms of

computations, including reciprocal ones between subdivisions, have remained unimproved. Furthermore, the level of economic education among workers and middle-level specialists does not measure up to present-day requirements. Of course, we have organized personnel training, and it must be said that it is being carried out quite effectively.

But let me cite another example. We need a tractor in order to provide services for the livestock-raisers. And we've ordered one. The tractor-operator is motivated to earn a bit more from the livestock-raiser for his work. But the livestock-raiser will pay only for the amount of work which has been completed. Is that fair? Of course. However, the tractor is not guaranteed to be fully engaged in work, and so its effectiveness is reduced. And this entails a decrease in the return on investment. What can be done?

I could cite other, analogous examples. *Ipsa facto*, we must improve the forms of reciprocal accounts, seek out and find new economic levers. But here too not everything is so simple. It seems to me that the collective and lease-type of contracts which we've begun to introduce constitute transitional forms of production organization. They should be adopted at a certain stage of our development. Subsequently, however, it's obvious that we will have to switch over to the general-type contract, since even now using the existing forms has revealed certain contradictions and negative features.

[Question] Just what do the latter consist of?

[Answer] First of all, the collective-type contract, of course, does help to strengthen collective principles in production. And on this level it plays a progressive role. But, at the same time, it also divides people up, since each of them begins to "root" just for his own section, for his own collective. However, we need to have a situation whereby the over-all, common interests are placed above group-type, factional ones. For the time being, we are trying to resolve this contradiction by methods of political-educational work. There are no economic levers for managing such a process. Consequently, we must seek them out.

On the other hand, we cannot ignore a person's individual traits or the high professionalism of certain individuals. For example, we have a milkmaid named G.M. Timofeyeva. She is an expert at her work and has been awarded Orders of Labor Glory, Third and Second Class. It so happens that Galina Mikhaylovna was the initiator in introducing the collective-type contract at the farm. Her units works successfully, but her own work as the foreman has been "diluted" in the common efforts. Although it may seem immodest, she would like to receive an Order, First Class. But whether she will remains problematical, since the results of the collective's work as a whole are somewhat lower than her own individual results.

Or take another example. In one of our units two milkmaids are working who used to obtain more than 4,000 kilograms of milk per grazing cow. Now the unit as a whole produces 3,800 kilograms per cow. But the oblast reister of leading workers is headed by a milkmaid who gets about 4,000 kilograms. Moreover, she works at a farm where the average milk yield does not exceed 2,000. Under the conditions of socialist competition which prevail within our farm we provide for a system of incentive measures based specifically on the collective work result, whereas on the scales of the rayon and oblast, the individual indicator is taken into account, as was previously the case.

[Question] Hence, must we not conclude that conversion to the new forms of labor organization and administrative methods need to be carried out simultaneously throughout an entire region?

[Answer] Obviously that's not all there is to it. Discussion of the collective-type contract did not begin just yesterday. However, most institutions and departments, beginning with the central ones, are not yet ready to implement these forms of labor organization. Even the VDNKh [Exhibition of USSR National Economic Achievements], which is supposed to react effectively to changes in practical life, has remained behind in these matters. They insisted that we send one, I repeat, one milkmaid to the VDNKh. But this farm has functioning teams consisting of four persons. In order not to lose the award we deserved, we selected a worthy person. Unfortunately, this introduced dissension in the interrelations among the unit's members. Now it is proposed that we select a candidate to compete for the State Prize. But here again, there's just one candidacy, while we have collectives.

I've cited these examples because the old approaches to providing incentives for highly productive work have exerted the most direct influence on the economy and on the entire system of the new economic-management methods. Last year we introduced wages based on gross income. As you know, this is an irreversible mechanism. Here the principle is based on providing incentives not only for crash-type work, but also for a conservationist, economical attitude. Consequently, payments for intermediate results ought to be minimal. However, this does not conform at all to the practice of summing up the results of socialist competition in our rayon and oblast, and we do not have the right to refuse to participate in it. On the other hand, the following question arises: How can we be fair to the leading workers at the intermediate stages?

[Question] Mereke Ilyasovich, we have, perhaps, wandered somewhat from the topic of our conversation. After all, it's probably true that difficulties arise not merely in summing up the results of the competition. Is that not so?

[Answer] A great deal of attention had to be paid to this because we were talking about activating the human factor. And it's our everyday task to solve the entire range of problems affecting a person, his attitudes and his wishes to work in a highly productive manner. In making the transition to self-financing, however, many other questions have also arisen. In the forefront I would put the difficulties in obtaining electric-power capacities. This is an enormous item of expenditures. Every year we spend 400-450,000 rubles to purchase equipment and other resources. But there are no firm or stable assurances that they will be provided. As you know, wholesale trade has not yet been set up or fine-tuned. We submit requisitions for needed vehicles and machinery two years ahead of time, and we barter no more than 10 percent of them. It has also become clear that the supplying of material and technical resources is handled in a crash-type, haphazard way. With such a state of affairs, it is inevitable that various distortions arise. And, everything, as a rule, is in one direction—in order to obtain electric-power capacities, we spend more funds than we intended. We sometimes acquire a surplus. Formerly we needed belt-type seeders. We ordered them, and now more of them have arrived than we require.

Smoothly operating deliveries are very important for an enterprise operating on the principles of self-financing. But here we've retained, as before, the one-time, ad hoc allotment of resources, and somehow it's impossible to regulate this process. Take everything they give you because you won't get any more. This is manifested with particular clarity in the supplying of construction materials. Not even half the need for them is provided. And hence, the attempt to obtain them by any means and in any amount. On our farm, for example, 35,000 rubles worth of roofing iron was purchased last year. During the year's work this much was not required, and if we had been sure that, in case of necessity, this material could have been easily obtained, we would not have had to buy it just for storage. In this way above-norm reserve supplies of resources are created which, when we are operating on the principles of self-financing, merely burden the economy. They begin to appear sometimes even when we are not to blame. Thus, centralized delivery functions within the RAPO [Rayon Agro-Industrial Association] material-and technical-supply system. At one time this form of servicing agricultural enterprises was considered to be progressive. But nowadays its negative aspects are beginning to manifest themselves more and more. One of them is the mandatory non-liquidity of shipping in motor vehicles and machinery which the farm really does need. By thus selling parts which nobody needs, the material and technical supply organs correct their own economic position. But our economy suffers because of this.

It should be noted that around the agricultural enterprises a network of organizations has been created and is functioning which obtain payments from us merely by virtue of the fact that they exist. Of course, we conclude

contract agreements with them, but these are compulsory and hence conditional documents. After they are signed, a certain sum of "payments for services" is immediately taken from the farm; the gist of these agreements consists solely in the fact that such organizations have concentrated all the material and technical resources in their own hands. Let's say, for example, that for the operation of water pipelines we immediately transfer 9,000 rubles to the appropriate organization. But if we needed to replace a certain pump, we would have to pay amounts separately and for all the elements involved. The motor-vehicle transport enterprise takes payment only for what the truck-drivers are permitted to stop off for on their unloading area.

We have not yet eradicated the practice of harsh pressure on the farm from above. Already this year, upon an order from the oblast-level agro-industrial committee we sent off to the Ukraine two railroad cars of grain fodder in exchange for canned vegetables. Our station's collective obtained nothing from this operation. And, of course, such features, which are economically unjustified, should be excluded for the practical experience of administration. We've not become the masters of our own profits. Out of the 2 million rubles at the farm's disposal, there remains only about half.

[Question] But it must have strict norms still in operation and still at its disposal. How do matters stand with regard to working them out?

[Answer] It was proposed that we determine our own norms. We took all the materials for the last five years and derived the coefficients. A parallel operation was also carried out in the oblast-level agroprom. The difference in the final conclusions turned out to be extremely substantial and not to our advantage. It's evident that norms need to be drawn up by rayons or a group of farms, or even for each farm individually. But there are still no precise ideas on this matter, since things are not yet clear with regard to the amounts of deductions. Formulation of the reserve fund, for example, has been defined so murkily that, to this very day, we don't know what contribution we will be making to it. The amounts of the deductions for the use of resources have not been determined, and a number of other problems have not been solved.

I'd like to emphasize the following idea. It is now necessary that managers and specialists at all administrative levels understand the following: to learn independence means to let people function independently. Under the conditions of operating on the principles of self-financing, this is particularly important. It must not be considered that all the recommendations coming from above have already been fully approved and merely need to be carried out unquestionably. We must examine the possibilities of deviating from them and seeking out

new solutions. And if these "peculiar" ideas turn out to be erroneous, then we must correct the initiators, rather than ascribing the value of absolute truth to directives handed down from above.

[Question] In this connection, Mereke Ilyasovich, the following question arises. There are quite a few valuable scientific developments in agricultural production; in a number of regions interesting experience has been accumulated regarding production intensification. But all these innovations are very poorly disseminated. Certain economic managers consider that we need a special service to introduce everything progressive.

[Answer] I think that such a posing of the problem is utterly incorrect. Each farm has chief specialists by sectors. They are production technologists. And nowadays their service duty is to keep track of technological innovations, to "measure" them against local conditions. And when complete cost accounting goes into effect, this will probably become their only task. Why then should we have some kind of additional service?

[Question] You pointed to a whole range of serious problems arising when the administrative reform is carried out. But what role do you see for the party organs to play in this process?

[Answer] In our country perestroika was begun and is being conducted under the leadership of the Communist Party. The 27th CPSU Congress and ensuing Central Committee Plenums have outlined the tasks of the party organs at all levels and indicated the basic directions of their activities. But life frequently presents such situations in which the solution of certain problems of local importance depend directly upon higher-ranking state authorities. Nowadays this is attested to by the numerous publications in the press which mention that ministries and departments are acting counter to the demands of perestroika and undermining the independence of labor collectives. Moreover, the pressure "from above," although it has weakened, still does remain. Here too we need to seek out new approaches to enhance the effectiveness of political leadership. This will obviously be a subject for discussion at the 19th All-Union Party Conference. The latter must provide the answers to many questions, including those as to how the party organs will subsequently carry out their own coordinating roles.

[Question] One more question. At the beginning of our conversation you emphasized that the farm has organized personnel training and that it is being conducted quite effectively. Could you possibly talk about this in a bit more detail?

[Answer] In making the transition to self-financing, we must teach people to think in the new way and inculcate them with economic thinking. This is becoming the principal task of the party organization. In preparing for this transition, the experimental station's party committee has correctly assessed the situation which has been

created within the collective and come out with an initiative which has been approved in the rayon-level party committee. What is the gist of it?

As you know, the labor collectives have three types of training—political, economic, and vocational. But since 1986 our farm has organized the operation of an experimental complex of schools in which all three types are combined. It is based on the principle of "Work together—Study together." These schools have an enrollment of 224 members of the production collectives from field-crop cultivation and livestock-raising, headed by brigade-leaders and section-chiefs. They include 71 communists and 28 Komsomol members. Classes are conducted every week for two hours. The schedule is drawn up in such a way that one hour is devoted to political or economic training, while the other is given over to vocational training. Every two or three weeks seminars are provided for in the political and economic courses. What does such a form of training furnish?

Though unified in its contents, the school has many fields of specialization, and this enhances the students' interests in the classes. Simultaneously with the decisions of the 27th CPSU Congress and other very important party documents and government documents, the students here also study the advanced experience of the comrades working alongside them. Thus, the livestock-raisers examine in detail the experience accumulated by the milkmaids in the brigades of I.A. Tsitser and F.A. Kodints, which have achieved the highest results in the rayon. The field-crop cultivators have been mastering the operating conditions on a collective-type contract, using complete crop rotation. In the classes both the farm workers and the machine-operators have exhibited a high degree of activity; they have tried to penetrate more deeply and more specifically into the topics being studied. All this has certainly been reflected in the organization and observance of labor and technological discipline. It was not by accident that this station's collective successfully coped with the past, very difficult harvest. As already noted, 19.6 quintals of grain was obtained per hectare, which is 4.5 quintals more than in 1986. Results on the livestock farms also increased.

The school training in political, economic, and vocational subjects not only furnishes machine-operators and livestock-raisers with profound occupational skills, but also teaches them how to utilize them in practical life, assists in the growth of initiative and practical activity among personnel. This was confirmed by the examinations at the end of the school year. Out of 200 students, four upgraded their categories, 155 confirmed theirs, 9 livestock-farm employees were awarded the title "Master of Livestock Raising," First and Second Class, and 21 persons were thanked in an order concerning their good study. Among the students there were also those who had a negligent attitude toward their classes. Because of their low grades, 11 workers were deprived of a certain percentage of their wages in the 13th category. To the question posed to them on this matter in a special

questionnaire, 130 persons assessed the level of the classes in the schools as "Good" or "Excellent," while 50 rated them as "Satisfactory."

But all this merely comprises the first few steps, and we must do a great deal more work in order to attain the assigned goal. And when we eliminate all the existing

shortcomings and the contradictions, we will attain the improvement of cost accounting in production relations, and then we'll be able to say: We have really arrived at self-financing.

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POLICY, ORGANIZATION

Gosstroy Official on Speeding Up Restructuring
18210012 Moscow PROMYSHLENNOYE
STROITELSTVO in Russian No 6, Jun 88 pp 2-3

[Article by V. A. Balakin, candidate in economics sciences, member of the Collegium and Chief of the Main Administration for Economics and Improvement of the Economic Mechanism, USSR Gosstroy: "Restructuring of the Economic Mechanism in Construction Needs New Acceleration"]

[Text] In order to implement decisions of the 27th CPSU Congress and subsequent CPSU Central Committee plena that touched on problems of progress in the country's capital construction, a comprehensive system of measures for improving the state of affairs in this key area of the national economy and the branch's social development has been executed consistently.

Administration has been restructured. Work has been promoted on speeding up the introduction into production of the newest achievements of scientific and technical progress, the main directions of which have been defined in 16 science and production programs (Tsement-90, Metall-90, Outfitted Module, and so on). Organizations and enterprises of the construction complex are focusing their attention on questions of saving resources. Improvement of the economic mechanism is a most important area of restructuring of the branch.

All this has influenced positively the work results of the branch's organizations and enterprises. Thus the annual average rates of growth during 1986-1987, in comparison with the preceding five-year plan, were 5.6 vs 3.1 percent for introducing fixed capital into operation, 7.1 vs 3.7 percent for amounts of capital investment assimilated, and 7.2 vs 2.2 percent for the construction and installing operations performed. There were still greater successes in the construction of facilities for the social sphere. In 1987, 14 percent more apartment houses were introduced than in 1985, 27 percent more schools, 16 percent more preschool institutions, 34 percent more polyclinics and 17 percent more hospitals. The average annual growth rate for labor productivity more than doubled. In 1986 and 1987, for the first time, the branch carried out the established plan for profit.

However, these results, which appear meaningful against the background of the previous five-year plans' indicators, cannot satisfy the demands of the country's economic and social development. Goals for introducing fixed capital for the first two years of the five-year plan were met by 93 percent. The pace of restructuring leaves something to be desired.

One of the most serious problems is the reduction in correspondence of the scale of production-type construction with the actual potential for erecting enterprises and facilities within the prescribed periods. The 1986 CPSU

Central Committee and USSR Council of Ministers Decree, "Additional Measures for Improving Capital Construction for Purposes of Accelerating Scientific and Engineering Progress in the National Economy," assigned the goal of converting during the 12th Five-Year Plan to the erection of enterprises and facilities in strict accordance with the established construction-time norms. By the start of this five-year plan, the front for production-type construction was 20,100 construction projects. The ministries and agencies, together with the contractors, examined problems of priority in the construction of enterprises, based upon the ceilings of allocated capital investment and the potential for completing their erection within the prescribed periods. Decisions were made to mothball some enterprises under construction whose technical level does not meet modern demands and suspended work temporarily at construction projects which cannot be provided the resources for introducing them on time. In two years the number of construction projects for production purposes was reduced by 12.5 percent. Mothballed were 21,200 facilities with a budget-estimated cost of 22.3 billion rubles. This enabled a definite concentration of funds and resources on a smaller number of projects and a reduction in the calculated time taken to build enterprises down to 8 years, according to 1987 indicators, vs 9.5 years in 1985. This year's plan for contracting work established for most projects a still greater orientation toward a reduction in construction time. Much depends upon the fulfillment of these plans. But this pace in reducing construction times does not enable the task set by the 27th CPSU Congress—cutting the duration of the investment cycle by at least half—to be solved.

In forming the plan for 1989, work must continue on further reducing the number of enterprises and production-oriented facilities under construction simultaneously. Indisputably, this requires the development of specific measures for increasing output of the appropriate output at existing enterprises by improving the use of existing capacity, increasing the shiftwork factor for the equipment, and building up capacity by reequipping and rebuilding production facilities. The reserves here are great. Suffice it to say that the overwhelming majority of new enterprises introduced during the past five-year plan did not master the capacity within the prescribed periods. Matters are going still worse in achieving the level of economic indicators laid down in the designs. However, the supervisors of a number of ministries (USSR Mintsvetmet [Ministry of Nonferrous Metallurgy], USSR Minkhimprom [Ministry of Chemical Industry], USSR Gosagroprom [State Committee for Agroindustry], and so on) are expending greater energy in the search for arguments that will justify the necessity for retreating from the construction-time norms (naturally, not with a view to reducing them). In so doing, the whole arsenal of strong pressure that is inherent in the old command-administrative style of control is used.

A fundamental change in investment policy is the increase in the share of funds and resources aimed at reequipping and rebuilding. According to this year's

plan, the share of these expenditures is 47.5 percent of all capital investment for production-type construction. But one cannot help but pay attention to the fact that the share in construction and installing work in total capital investment for reconstruction is less than that for new construction. An expansion in area and the construction of new facilities often are executed under the guise of rebuilding. What is more, the periods for rebuilding (there are no norms for these operations) are extraordinarily long. According to USSR Goskomstat [State Committee for Statistics] data, the full period for rebuilding enterprises is almost equal to that of new construction.

Decisive action should be taken to halt the practice of preferential financing. Starting work without an approved design, without the working papers having been developed and transmitted to the contractor in timely fashion (this is characteristic for USSR Minselkhoz mash [Ministry of Tractor and Agricultural Machine Building], USSR Minavtoprom [Ministry of Automotive Industry], USSR Minmedbioprom [Ministry of Medical and Microbiological Industry] and USSR Minlegprom [Ministry of Light Industry] and others) has disorganized construction. Such enterprises take a long time to build, their budget-estimated cost is greatly exceeded, much of the work is worthless and has to be redone, equipment is not delivered on time, and they are introduced as abridged complexes due for early startup. Given preferential financing, one must not only not dream just about converting to turnkey construction but even speak about normal organization of construction.

Measures for converting to contract prices, the introduction of pricelists per unit of customer benefit of a construction product, and the transfer of working design to the contractor should promote a reduction of construction costs. Last year the development of 1,200 price lists for facilities for housing and public-use purposes and more than 540 pricelists for production-type facilities were completed last year. Transfer of development of the constructional part of the designs is, for the time being, being fully realized in the creation of construction-design associations (PSO's). However, most of the PSO's are being created in housing construction. The construction ministries travel timidly the route of creating PSO's for industrial construction and are slow in solving with clients (the latter also manifest caution) problems of transmitting the construction design work. This year the capacity of the design organizations of the construction complex's ministries allows a fourth of the contracting construction and installing work to be done by them.

A serious deficiency in the construction of production-type facilities is the lack of regularity in introducing capacity. There was no success in avoiding it this year either: contracting organizations of the construction complex should introduce 95 percent of all the capacity for the state order in the second half of the year, 80 percent of it in the fourth quarter, the overwhelming part of it in December. The main cause of this situation is the

impossibility of delivering the basic industrial equipment on earlier dates. With a view to providing for the guaranteed introduction of all the productive capacity called for by the plan, clients and contractors must, jointly with the suppliers of equipment, investigate the problem of prompter delivery of it. Much is determined here by the potential of machinebuilding. A buildup in the machinebuilding-complex's potential is a most important task of the five-year plan, and all construction organizations should give priority to machinebuilding-complex construction projects.

When formulating 1989's capital-construction plans for introducing production capacity, it was necessary to begin not with the contract but with determination of the potential and the dates for the manufacture and delivery of the basic industrial equipment.

Restructuring of the economic mechanism in construction calls for a rise in the role of agreements for a contract. The agreement for a contract that is concluded for the whole construction period should serve, under the new conditions, as the basis for formulating annual plans for contracting operations and for determining all the mutual economic relationships of the contractor with the client and the responsibility of the parties. The previous agreement campaign in construction was conducted in the first quarter and was completed by May. Such a procedure is incompatible with the work of enterprises and organizations where there is full economic accountability. Operations for the concluding of agreements for the contract in 1988 should have been completed in September-November of last year. By 15 December 1987 it turned out that agreements for a number of projects that had been included in the plan, the contract work for which comprised about 3 percent of the annual program of construction-complex organizations, had not been concluded. The indicated projects and facilities were excluded from the plans for contracting operations, releasing funds intended for revisions caused by nonfulfillment of the 1987 plans by various construction projects, and the plan for contracting work for the corresponding clients was reduced also by 200 million rubles.

Taking into consideration the experience of the preceding contract campaign, and based upon the requirements of the Statute for the State Enterprise (or Association), recommendations for introduction of the necessary refinements in the Rules on Agreements for Contracts for Capital Construction are being readied.

The transfer of contracting organizations and construction-industry enterprises to the collective contract occupied a central place in restructuring of the economic mechanism in construction-complex organizations in 1987. By the start of this year 96 percent of construction-complex organizations had converted to the contract. The effect of this measure was not only a 2-fold to 3-fold acceleration of the rate of labor-productivity growth but also—by introduction of the principles of self control—

a most important element of democratization. Work on the collective contract promoted an accumulation of the funds necessary for converting to the new salary and wage rates, which had been introduced for three-fourths of the construction-complex's workers by the start of the current year.

However, in some organizations (USSR Minenergo [Ministry of Power and Electrification], USSR Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] and the Azerbaijan SSR Minstroy [Ministry of Construction]) the rates for conversion to the collective contract were inadequate. In some organizations cases of formalism and administration only by decree were permitted, proper preparation for working under this method, clarification of its essence, and the instruction of personnel had not been conducted, and trust supervisors did not take charge of this work. Such cases were noted, for example, in Volynpromstroy [Volyn Industrial Construction Trust], Rovnopromstroy [Rovno Industrial Construction Trust], Glavdalstroy [Main Administration for Construction in the Far East], and Glavvostoksibstroy [Main Administration for Construction in East Siberia].

Acceleration of the rate of increase in restructuring of the economic mechanism in the construction complex and the creation of economic conditions for successful operation where there is self-financing are connected with the need to develop and to deepen economic accountability within production facilities in all elements of organization. It enables the actual contribution to the final results of each subunit and each brigade to be determined. The principles of economic accountability with use of the so-called check system are being implemented especially consistently. A reliable, powerful barrier against wastefulness is being erected, since each person answers with his own ruble for extravagance.

On October 1987 problems of the further development of economic accountability within the production activity that is based on the check system were examined at Daugavpils at an All-Union Seminar-Conference. Right now all the ministries and many organizations of the construction complex are widely promoting work on introducing these principles of economic accountability within the production activity. Additional thrust must be imparted to it.

The collective contract and economic accountability within the production activity are natural drive belts for increasing profitability. Since the start of this year, the main portion of construction-complex organizations (85 percent) were transferred to full economic accountability

and self-financing. In order to operate under these conditions, a construction and installing trust's profitability should be at least 14-16 percent.

Last year the construction ministries developed and began to implement comprehensive programs that contained organizational, engineering and economic measures aimed at eliminating the losses of construction organizations and at raising production profitability. Two years ago the activity of one-fifth of the organizations was unprofitable. Today the number of such organizations has been sharply reduced. Last year 4 percent of the organizations in the All-Union construction ministries ended last year with losses. However, in 1987 one-fifth of Turkmen SSR and Armenian SSR construction organizations and one-sixth of the organizations in the construction ministries of the Tajik SSR, Azerbaijan SSR and the Georgian SSR worked unprofitably.

The task consists not simply in eliminating unprofitability. The profitability level should provide conditions that will enable successful operation, based on self-financing principles. Poorly profitable organizations require grants from centralized funds and from the reserves of higher organs. The number of such trusts is still great at present. Unused reserves, including purely financial reserves, are substantial. Thus, organizations of the Union construction ministries are paying about 30 million rubles monthly alone in fines, penalties and forfeits. This is a substantial portion of the overall losses of contracting organizations, which are commensurate with losses from productive activity.

Only a few months of operation of a large group of contracting organizations under full economic accountability and self-financing have passed. But already it can be noted with all definitiveness that organizations that prepared poorly for operation under the new conditions are encountering great problems.

This year is a year for practical realization of the whole set of principles of the new economic mechanism. While last year the main emphasis was laid on introducing individual elements, granted that they were important ones which could yield a benefit in a short time, the attack on the front for restructuring the economic mechanism in construction is going on in all areas. A mobilization of the efforts of the laboring collectives and the administrative staff for methodical, persistent and strenuous work to implement the adopted decisions and programs of the new system of management is necessary.

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LABOR

Workers Successfully Lease Plant

18280080 Moscow TRUD in Russian 13 July 88 p 2

[Article by A. Troitskiy: "They Leased a Plant"]

[Text] This May an incident having far-reaching consequences for the enterprise took place at the Stroypolymer plant in Odintsovo near Moscow. The personnel following the example of the Butovskiy Construction Material Combine leased their own plant, setting off on the alluring but little studied path of the economic experiment. Here it must be emphasized that this is not a plant that is losing money but a profitable one that works well and carries out its production program satisfactorily.

The question then arises, what is the idea behind the experiment? It is understandable when an unprofitable plant that is on the verge of bankruptcy and that needs to be closed one way or another is handed over to the workers, and they pull it out of the slump in a short time, increasing their earnings substantially in the process. Here everything is clear. But why lease a plant that is operating in a normal manner? The answer is to demonstrate more fully the effectiveness of lease relations and to understand whether they can be used widely in industry in the future. And, using their advantages, create the conditions for a powerful lunge forward.

The essence of leasing is that when the plant's staff signs a contract with the main administration it not only becomes complete master of the plant but in practice the subordination to higher economic organs is weakened. In accordance with the contract the staff obtains the right not only to dispose of the funds that are earned independently but to choose the directions of its activity. Of course the plant retains certain obligations - to fill government orders and make payments to the state budget and to the main administration for the lease. But in everything else the workers of the enterprise are their own bosses. The distribution of the accountable income among the various funds (paying wages, social development and developing production) is not carried out according to set standards as usual but according to the decision of the collective.

It is true that there were fears among the skeptics: what if the staff takes the lion's share of the income for the wage fund in order to raise earnings? But the plant personnel themselves refuted this. At a conference of the employees of Stroypolymer at which the contract concluded with the main administration was discussed the chairwoman of the council of the labor collective, who was elected right here, the head of the mastic shop, V. V. Ivanova, spoke up.

"That is a legitimate question. Will we not 'eat up' the funds earned in pursuit of high earnings today? So that this will not happen the lease agreement is concluded for a long period, for 13 years. If by raising wages today we

limit funds for developing production, then we will make high wages tomorrow dubious. We shall have to look at our own activity in a new way and become zealous resource managers."

At Stroypolymer it is as though invisible gates had been opened for the initiative and the creative and sensible suggestions of the employees. Some of them were completely unexpected. Thus, for example, someone came up with the idea of not selling the linoleum production wastes to outsiders as previously but on the contrary to obtain it at a suitable price from other enterprises. Polyvinyl chloride is a raw material that can be used in production. By having a surplus of it and buying it for kopecks the plant can protect itself against interruptions in the deliveries of raw materials. In addition, output produced from waste materials costs very little. This is another way to increase profits.

A dispute arose about these very waste materials. With the existing production methods the processing of waste materials is labor intensive. "Will it pay?" the workers worried. "Is the game worth the candle? Are we not getting involved in a dubious undertaking?" There were various points of view and arguments for and against. The meeting broke up without reaching agreement. The director of the plant, Makharinov, requested that any sensible suggestions regarding the processing of raw materials be sent to him. For some reason he did not doubt: there just had to be that kind of suggestions.

He was not wrong either. Many people proposed the establishment of cooperatives in which plant employees would work in their spare time. After all a lot of workers are engaged in "seasonal work." They fix roofs for someone and repair things for someone else. Then why not give people the opportunity to earn some money in their spare time directly at the plant and at the same time relieve them of the need to seek "left" [illegitimate] earnings. "We then talked things over with the comrades and decided to take on the processing of wastes." This was how many conversations began that the director held on that day and those following.

Today three cooperatives of various types have been established at the plant. One of them, which was called Gidroizolyat and included more than 20 persons, is engaged exclusively in obtaining polyvinyl chloride from linoleum production wastes.

The members of another group—Polymer—are engaged in providing services to the population. They carry out orders from the inhabitants of the rayon for laying linoleum in their apartments or garden houses. When taking orders they pass them on to the consumer goods shop of the plant, where carpets of the required dimensions are produced from waste materials. The rest is done by the members of the cooperative. They lay the linoleum and add plinths that have been cut ahead of time.

The cooperative Neva builds and repairs housing and obtains the materials necessary for this at the plant. The order books of the cooperatives are filled up and then some. There is no let up in demands for their services. The business is mutually profitable. Yesterday's waste materials, which raised the cost of basic production, have become a cheap raw material and now, as the saying goes, are being transformed into incomes.

How is the productive and economic activity of the cooperatives structured? Although they are independent organizations, they work in contact with the plant. Stroyppolymer undertakes concrete obligations in supplying them with raw material for a specified payment, selling them waste materials from basic production, providing working premises, tools, equipment, etc. Part of the funds earned by the cooperative go for developing the productive facilities of the cooperatives themselves. The remaining amount is divided among their members. The personnel of the plant has a vital interest in the growth and development of the cooperatives.

The employees perceive the plans for developing production and increasing output as a personal matter that

affects everyone. And they have big plans. By 1995 the production of linoleum must be increased from 4.5 to 10.5 million square meters per year. The output of multi-use decorative films will rise from 1 to 20 million square meters. The production of packings and sealing paste for main gas pipelines and other items must be increased one and one half times.

And while now the fixed capital of the enterprise amounts to seven million rubles, by 1995 20 million rubles are to be allocated for developing production. In essence they are building a large new enterprise while renovating the existing capacities.

In a word the lease contract already in the very first stages has shown what enormous possibilities are opened up if the enterprise becomes a true manager of production and if scope is provided for the initiative and creativity of the workers.

12893

ORGANIZATION, PLANNING, MANAGEMENT

More Effective Technical Policies For Machine Building Proposed

18230061a Moscow PLANOVYE KHOZYAYSTVO in Russian No 6, Jun 88 pp 59-64

[Article by K. Kolesnikov, academician and member of the USSR Gosplan State Experts Commission, V. Dvoryaninov, candidate of technical sciences and chief specialist of the USSR Gosplan State Experts Commission, and L. Volchkevich, doctor of technical sciences, professor and member of the USSR Gosplan State Experts Commission, under the "Structural Policy of the National Economy" rubric: "The Machinebuilding Complex's Efficiency—the Reserve of Structural Policy"]

[Text] At the present time, specific structural shifts are occurring in the national economy. The machinebuilding complex has received priority development, since the future of the country's economic system depends to a great extent on its scientific, technical and production potential.

The basic tasks of machinebuilding are: the complete supplying of the economy with up-to-date equipment; a sharp increase in the technical level, the quality and the competitiveness of products in the foreign market and the attainment in this field of the foremost scientific and technical positions in the world; a rapid transition to the production of new generations of equipment capable of ensuring constant growth in labor productivity and the introduction of advanced technologies, primarily power and resource conservation ones; a rise in the level of automation of all stages of the industrial development of items up to the mass production of the finished articles. Also urgent are the deepening of specialization and the expansion of production cooperation, the development of assembly and machine and assembly type enterprises and specialized plants for the manufacture of parts, units, assemblies and set-ups for sectorial and intersectorial purposes; the acceleration of the renewal of basic production assets, an increase in the efficiency in the use of existing production capabilities and a significant reduction in the time frames for the development and assimilation of introduced production capabilities.

The paths to the realization of these directions and the attainment of the planned work indices are provided for in the plan for the development and siting of machinebuilding branches. Taking into consideration the analysis of their activities over the last period and the well-based long-range need for the corresponding production, a long-term (for 15 years) concept of maximally feasible or complete supplying of the national economy with highly efficient equipment is being worked out.

The USSR Gosplan State Experts Commission has examined draft plans for the development and distribution of the machine tool and instrument industry, transport and agricultural machinebuilding, chemical and petroleum machinebuilding and the motor vehicle industry. Their selection was based on the extreme importance of these sectors for the economy's development.

The summing up of the results of the examination of the plans has indicated that the technical policy, to a significant degree, is directed at the modernization of the existing types of equipment and machines and not at the development of new generations of principally new equipment. At the same time, there is a constant increase in the individual capacity of the machines and a corresponding increase in their relative importance in the stock structure.

At the same time, practice testifies to the fact that such a direction in the development of equipment is not efficient for the national economy. Thus, an increase in the capacity of a wheeled tractor, explained by the need for an increase in labor productivity, does not yield a positive effect during agricultural operations. In many instances, because of the impossibility of attaining a given speed, the lack of an optimal set of attached implements and so on, it is impossible to achieve the planned productivity, while the tractors' fuel consumption and mass with the engine's increased capacity increase substantially.

The increase in the structural mass of agricultural equipment leads to an increase in the specific pressure on the soil, to its overcompaction and to disruption of the conditions for the favorable growing of vegetation, which is one of the reasons for the decrease in the yield. It has been established that not one of the various types of mobile agricultural equipment meets the requirements of the corresponding state standard for tolerable specific pressure on the soil. For example, during operation of the Don-1500 combine, it amounts to 2.6 kg/cm², which is higher than the limit standard by a factor of 1.5. However, in the long run, no provision is being made for the development of light-weight tractors, combines and other machines and mechanisms using light-weight metals and plastics.

A similar picture is being observed in motor vehicle building, where the motor vehicles' carrying capacity and axle load are increasing. Because of the disparity between the road surface's load-bearing capability and the axle load, there is an increase in the wear of this surface, which, in turn, leads to a reduction in the average motor vehicle traffic speeds and, consequently, a reduction in the economic effect obtained from the increase in carrying capacity, right into negative figures.

There has been a significant increase in the individual capacity of units even in such a sector with small-scale individual production as the chemical and petroleum

machinebuilding. The use of just a single unit with increased capacity at chemical industry enterprises can lead to a stopping of the entire production, even in the instance of a trivial breakdown, with unavoidable economic losses.

Therefore, in order to estimate the economic efficiency from the introduction of such equipment, it would be advisable to cite in the plans the results of the corresponding technical and economic analysis, taking into account the two basic indices—its price and the beneficial effect. It follows from the plans' documents that, for many types of equipment, the prices increase faster than their beneficial effect. Thus, the price of a single machine tool will increase by the year 2005 by a factor of 6 in comparison with 1985, while productivity will increase by a factor of 5. At the same time, no calculated bases are cited.

The technical policy in the long run does not plan for a basic increase in the technical level of the machines and equipment. The indices for the equipment which will be produced in 2005 are comparable to foreign analogs which are being produced at the present time, i.e., in the plans, as it were, there is reinforcement of the lag in our domestic machine building behind the world level. For example, in machine tool building, the production of gear-cutting equipment, which machines parts to the second degree of precision, lathes for instrument building, which ensure a positioning accuracy of 0.1 micron and a circularity of 0.3 micron, and a number of other pieces of equipment, is being planned for a calculated time frame, while such tools are already being manufactured abroad. There are similar examples available in other sectors as well.

The technical policy does not make any provision for a sharp increase in labor productivity. Thus, its increase in motor vehicle building, planned up to the year 2005, will be much smaller than in the motor vehicle industry of the developed capitalist countries at the present time. It must be assumed that labor productivity in them will also increase by the year 2005 and, consequently, there will also be an increase in the lag in our domestic motor vehicle building for this most important parameter, which, in the final result, determines the expenses for social labor.

The average annual labor productivity growth rates included for the long run in the plan for agricultural machine building testify to the extensive development of the sector as a whole and do not correspond to the requirements put before the machine builders by the 27th CPSU Congress.

The most important condition for a sharp increase in the growth rate for national labor productivity and the technical level of machines is the scientific provision and efficient large-scale organization in conducting research and development. The basic direction of such work for the calculated period should be the development of

principally new efficient machine designs. For example, in agricultural machinebuilding, this is the development of a new generation of equipment, equipped with on-board electronics with instrumentation and control systems. Only on a foundation of new technologies and the use of electronics is it possible to raise sharply the level of automation of production processes in agriculture and to reduce manual labor to a minimum. At the same time, in the plan for the development of agricultural machinebuilding and in other plans for the machinebuilding complex, an inadequate amount of attention is being paid to the efficiency and the scope of conducting research and development. Thus, the volume of expenditures for R&D in the plan for the development of agricultural machinebuilding amounts to less than one percent of the cost of the goods produced. The tendency toward a reduction in specific expenditures for research and development according to the 5-year plans is also being kept track of in the plans.

The outlined new construction and further development of existing enterprises in a number of cities of the Central, Northwestern and Ural Economic Regions have not been well-founded from the point of view of resource provisioning, the ecological situation and the increase in the load on the transportation network. The problem of the concentration of production in the large cities is being aggravated. Therefore, of particular urgency is the consideration of alternative versions for the organization of machinebuilding industries in small cities, since the realization of such a decision can lead to a substantial reduction in the load on industrial enterprises in large machinebuilding centers and to the improvement of the ecological situation in them.

Taking into consideration the development in the future of integrated ties with CEMA-member countries and the adopted policy of reducing import dependence on capitalist countries, it is necessary to outline in the plans the possibility for the establishment of and to specify the specialization of new joint industries with foreign countries.

In all the drafts of the plans, provision is made for significant capital investments for replacement of the active part of the fixed production assets, which is explained by their substantial physical wear and obsolescence. For example, analysis of the age pattern of installed equipment in USSR Minavtoprom [Ministry of the Automotive Industry] enterprises revealed that up to 58 percent of its stock has been in operation for more than 10 years. A large portion of the forge and press equipment (particularly the hydraulic presses and hammers), installed in plants of many machinebuilding sectors and in metallurgical enterprises is long out-of-date and physically worn out by 60-70 percent.

The structure of the renewed equipment stock, envisioned in the plans, remains unchanged for all practical purposes. The emphasis, as previously, is being placed on machining metals and this, as practice shows,

increases the labor intensiveness of product manufacturing, leads to increased energy consumption and lowers the materials' use factor. In other words, there is no opening up of the possibilities and prospects for the widespread use within the sectors of modern advanced technologies aimed at reducing the specific proportion of the processes for machining metal through the introduction of precise methods for obtaining intermediate products (stamping, forging, rolling, casting) and the expansion of the equipment stock for finishing treatment of workpieces (grinding and honing).

Even for the remote future, within the sectors a high manual labor level is being maintained (up to 20 percent). This applies especially to assembly production, the specific proportion of whose labor intensiveness is constantly increasing, as well as to auxiliary operations.

In order to raise the level of automation and mechanization of assembly operations (for example, in motor vehicle building up to 100 percent) provision has been made for the introduction of automated lines, automatic and semi-automatic equipment, industrial robots, advanced power tools, computer equipment for controlling the assembly processes, flexible automated systems and robotics complexes in mechanical machining. At the same time, the connection between the introduction of this new equipment and the improvement in the technical and economic indices of production output in the long run has not been made apparent.

In the sectors' development plans, there is no technical and economic analysis and, therefore, it is impossible to evaluate objectively the correctness of the selected directions for production automation. The necessity of a technical and economic analysis increases in particular in connection with the enterprises' transition to the new economic principles.

It is appropriate to note that, presently, not one of the several dozens of introduced flexible automated lines, with an average cost of several million rubles each, has produced a positive economic effect. According to foreign data, the cost of the average FMS [Flexible Manufacturing System], including several N/C machine tools, amounts to 15-20 million dollars, while an hour of its operation (or idle time) with overhead expenses costs approximately 1,000 dollars. Although the FMS' productivity is higher than ordinary tools and independently operating N/C machine tools, the operating time for the use of such systems, for the time being, rarely exceeds 60 percent of the potential. Therefore, the planning of FMS's needs to be done not according to an order, which by far is not always carefully thought out, but rather, wherever the technical and economic prerequisites for their efficient use have already been prepared.

One of the basic directions for the integrated mechanization of production is the introduction of automatic lines, including rotor and rotor-conveyor lines. However,

in the plans' projects there is a lack of an integrated approach to equipping the sectors with the latest equipment, advanced and highly efficient technology, tools and attachments.

The most important resources for the growth of labor productivity are raising the adaptability of the manufactured output, concentrating its production and ordering the run. It is precisely these measures which make it possible to increase sharply the specific proportion of the articles produced under mass and large-series production. If the necessary capital investments are directed toward the establishment of readjusted and reorganized automatic lines, including rotor and rotor-conveyor lines, then it will be possible to ensure a high degree of efficiency in expenditures, which could not be compared with the current attempts at automating individual and series production. Only under mass and large-series production, where the output scale is particularly large and a lot of experience has been accumulated, will it be possible to use the most advanced machines and their systems, which combine the concentration of operations and multi-tool and multi-site machining with continuity of activity.

At the same time, the automation of small-scale individual and series production is associated with the use of only single-site and single-tool discretely variable machines, the increase in the cost of which usually surpasses their productivity.

Thus, the strategy for the development of machinebuilding consists of, first, sharply increasing, on the basis of type designs and unitization of the output, its portion produced under mass and large-series production; second, organizing the output of a given product, as well as semi-finished products which are parts of other articles, tools and so on, at specialized enterprises equipped with integrated automated readjusted equipment with a high concentration of operations and process continuity; and third, making the development and introduction of such equipment a priority direction of flexible automated production. All this can be realized only in our country, where the enormous scale of industrial output and the economic system's planned methods are combined. Following another path for the development of machinebuilding, satisfying the control figures, including reducing the portion of share of manual labor to 10 percent, is unrealistic.

The state of mechanization of loading, unloading, transportation and warehousing operations, as is evident from the plans' materials, is unsatisfactory. However, there is no analysis of the reasons for such a situation and the paths for its correction have not been found. There is talk of a substantial reduction in the number of people engaged in manual labor. But even with the planning for raising the degree of mechanization of these operations up to 60 percent, its portion remains significant. Not reflected in the materials were the possibilities for introducing such advanced means of mechanization

and automation as pneumatic transport of granular materials for foundries, pneumatic transport of the basic chips from the cutting area, in-shop materials-handling equipment on aerostatic supports (air cushion) for moving heavy loads in the assembly sections and during the installation of equipment, automatic cargo-gripping devices and vacuum-type movers for sheet materials. Left outside the field of view have been the loading, unloading, transport and warehousing operations at equipment maintenance and repair enterprises.

The intense building up of industries, the nearly uncontrolled growth of motor vehicle transport and the increasing output of power-generating facilities for agriculture are intensifying the pollution of the air, the water, the soil and food products by specific substances harmful to human health. Therefore, one of the basic tasks of the development of the machinebuilding complex is the maximum reduction of harmful effluent released into the environment. However, an analysis of the plans has indicated the following:

- the long-term development and siting of the sector's enterprises are being planned without consideration of the state of the environment;
- provision has been made for an intolerably small-scale introduction of minimal-waste, non-waste and less toxic manufacturing processes, as a result of which the total amount of effluent released into the atmosphere by the year 2005, instead of decreasing, will actually increase in comparison with 1985;
- it is assumed that there will be an extremely slow equipping of industries with dust and gas scrubbers and it is not intended that all enterprises be equipped with them by the year 2005;
- the matters of cleaning and using the surface run-off which forms on the property of the sector's enterprises have not been studied. At the present time, the effect of surface run-off on the water quality of reservoirs and streams is increasing significantly and it contributes substantially to the pollution of the country's individual streams;
- there is a lack of data on the amount of solid sediment generated during the cleansing of waste waters and methods have not been examined for rendering them harmless, even though machinebuilding enterprises are among the main polluters of bodies of water, especially through toxic heavy metal compounds;
- the matter of sharply reducing the toxicity of motor vehicle, tractor and other equipment exhaust gases has not been examined, even though, for example, the motor vehicle transportation's share of the total output of pollutants across the country as a whole amounted to approximately 50 percent in 1986, while, in a number of industrial cities, it was more than 80 percent of the overall quantity.

Thus, the analysis in the USSR Gosplan State Experts Commission of the projects of the plans for the development and distribution of machinebuilding sectors up to the year 2005 testifies to the fact that the existing approach to the problem causes an extensive path. There is a lack of an orderly concept of development taking into consideration the multi-factor nature and dynamic use of scientific and industrial potential and the enormous influence of the achievements of scientific and technical progress and the intertwined distribution of material, labor and financial resources is ignored. The ministries, for the time being, have not found the paths for a fundamental improvement in the rate of development of the corresponding industries. Therefore, there is the danger that the decisions of the 27th CPSU Congress and subsequent party central committee plenums for the accelerated development of the country's machinebuilding complex will not be fulfilled.

The basic reasons for such a situation are the lack of proper attention on the part of the ministries' administrators toward the elaboration of the projects of the plans for the development of the sectors and the imperfection of the systematic instructions for their compilation, which were worked out by the USSR Gosplan. In particular, this applies to the determination of the criteria for the objective evaluation of the effectiveness of the plans and the basic propositions of the methodology for the analysis of the sector's development. The State Experts Commission has recommended revising the plans' projects, taking into account specific comments and suggestions.

There are also other serious reasons for the low efficiency of machinebuilding production, which extend beyond the boundaries of a single sector. Specialization and cooperation in the production of intersectorial articles is being poorly developed. The portion of standardized and unitized parts, units and attachments, manufactured by specialized industries, does not exceed 1.5 percent of the overall volume of machinebuilding production (in the USA it is 15 percent). Labor productivity and product quality at unspecialized enterprises are low.

The many years of priority development of metal-cutting equipment to the detriment of equipment and manufacturing processes for part-producing industries have led to the fact that, with a lesser volume of output for machinebuilding production, the amount of metal processed into chips in our country exceeds that in the USA by a factor of 2. This is one of the main reasons for the low economic efficiency of machinebuilding production.

The machinebuilding plants cannot substantially raise the quality of the product produced without a significant improvement in deliveries from cooperating sectors. There are far too few quality rolled products, economical sections, structural plastics and composite materials and the industrial rubber articles can well be criticized. The reliability of electric drives is $\frac{1}{3}$ to $\frac{1}{5}$ that of the standards and the basic portion of produced systems

with N/C, on the technical level, corresponds to foreign models of 1978 manufacture. Especially low is the reliability of microprocessor equipment control systems.

In order to fulfill the tasks set for machinebuilding by the 27th CPSU Congress, it will be necessary to have an integrated and balanced approach to the development of the machinebuilding and cooperating industrial sectors, an intersectorial balance of resources in machinebuilding and a plan for the development of the machinebuilding complex as a whole.

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12752

Light, Food Industry Machinebuilding Ministry Liquidation Noted

18230067a Moscow SOTSIALISTICHESKAYA
INDUSTRIYA in Russian 3 Aug 88 p 3

[Article by TASS correspondent A. Aladinskiy: "It Was Only Frightening at the Start"]

[Text] It was already announced in the press that as of March 1 of this year the USSR Ministry of Machinebuilding for Light and Food Industry and Household Appliances was abolished by a decree of the Presidium of the USSR Supreme Soviet. The specified final deadline for the liquidation was August 1. And now this day has come.

Probably the first ones to feel the elimination of the huge ministerial apparatus were the communications workers. The weary operators of the nearby post office breathed a sigh of relief. After having boiled at an unendurable tempo, immediately after the promulgation of the minister's order the load on the telephone center dropped—about 560 telephones fell silent for an indefinite period. They are still quiet today, and the offices are empty. The building of the previous Ministry of Machinebuilding for Light and Food Industry and Household Appliances, which has been transferred to the State Committee of the USSR for Computer Technology and Information Science has not yet been occupied by its new masters.

One telephone number still worked, however, and at the other end of the line the phone was picked up. The head of the Directorate of Cadres and Training Institutions, Yu. Kuzmenko, just like the captain of a sinking ship, was the last one to leave the ministry.

"Former head of the directorate," Yuriy Ivanovich corrected. "I came here to take care of some papers and documents. The program for abolishing the ministry and finding jobs for its former employees has been completed by us. We offered people two or more variants. There were no complaints. We did not even apply to the employment bureau—we managed everything with our own resources.

It is true that people had a choice. The strategy for abolishing the ministry primarily anticipated a new and qualitatively different place for this socially important branch and system of machinebuilding in our country. About 260 enterprises of the former Ministry of Machinebuilding for Light and Food Industry and Household Appliances have been transferred to the jurisdiction of eight ministries, including defense ministries. Therefore part of the people from one administrative apparatus migrated to other ones. A special department was established in the state commission of the USSR Council of Ministers to coordinate the solution of all problems of the branch. Employees of the ministry that was abolished went to this department. According to the list compiled by the personnel people of the agency about 23 percent of the employees followed this path.

The liquidation commission offered people more than 200 openings of what might be termed a practical nature: to become a designer, technologist, engineer or foreman. The chief engineer of one of the main directorates, A. Zakharchenko left Moscow to build a new modern plant Prodmash [food machinery] in the Mari ASSR. An employee of the personnel directorate, A. Melshin, took over the direction of a shop in the association Podolskshveymash [Podolsk sewing machinery]. One of the executives of the same directorate, A. Masliyev, headed up the personnel service in this association in Podolsk.

Suddenly an interesting side was discovered—the reduction opened the floodgates in personnel policy and made it possible for an "open season" on transfers to occur.

Let us take as an example the fate of S. Yermakov. The candidate of technical sciences occupied the position of head of the department of quality control of consumer goods in the ministry. The work is unquestionably necessary, but a person would like to have a vital, creative job. He asked to be released but they would not let him go. The abolition helped out. In truth, it was not luck, but misfortune that helped out. Semen Gavrilovich became the head of a sector in the scientific-production association Prodmash.

Let us look at the sociological survey of the campaign that was carried out. This document was shown to me in the Krasnopresnensk employment bureau, and it came there from the ministry. Those who went to work at the enterprises made up 31 percent, about the same proportion went to the research institutes and design bureaus, 6 percent went to the state acceptance commission and 5 percent to construction organizations.

"Of course people panicked in the first days—after all, we were among the first in Moscow who ended up under the "hammer" of cutbacks," one of the ex-employees, N. Gorbunov, recalls. "As one might expect, the decision on abolition, like any other extreme situation, brought out professional and personal qualities very sharply. For

some people it was like a stimulus - they worked all the harder. This is what I noticed: all of the workaholics found good jobs with a raise in pay."

"It was frightening only in the beginning when the menacing order appeared; then I calmed down and accepted the offer from the Ministry of the Medical and Biological Industry," the chief inspector, G. Nikitina, stated. "I am satisfied with the transfer, I am working in my field as an archivist, and I gained in pay."

Of course not everyone has such glowing memories of the moment of departing from the ministry that was fading into nonexistence. There are also views of a quite different ilk. These, for example, are the impressions of V. Zimin, former scientific secretary of the scientific and technical council of the ministry:

"I think that in this agency I and many people like me were treated undeservedly badly. I personally was not offered any job by the personnel people of the ministry. They informed me that I had been cut—and that was all. They worked very clumsily, and, what is most important, heartlessly.

The sharp words of Vladimir Aleksandrovich obviously can be understood. The author of several inventions and an experienced specialist, he had a right to expect special attention. He was offended when his candidacy was not proposed to other agencies. He turned to the employment bureau. There he was offered an institute far from his branch and ... an information bulletin from the city employment bureau.

The directorate of personnel of the ministry also failed to show the necessary attention in dealing with the senior engineer of Glavlegmash, N. Kurbatova. The specialist in the leather and footwear branch, who had worked more than 30 years in the light industry system and made her way from a student at the plant training school to a qualified specialist on the highest level of management, was cut, as they say, in a single hour, without paying attention to her experience and knowledge and without offering compensating jobs. It is true that when Nina Ivanovna after finding herself a job went to the personnel department of the ministry to formalize her release to be transferred they industriously copied the address and later passed it off as a variant that was offered to her. What is interesting is that this address later figured in the control card filed on the engineer Kurbatova in the employment bureau of the Krasnopresnensk rayon, where she is alleged to have applied for assistance. Why allegedly? Because Nina Ivanovna categorically states that she did not apply to the bureau and does not even know its address.

By the way, the role of the bureau and its capabilities in the campaign that is going on for the radical restructuring of the system of discharging, retraining and finding jobs for citizens deserves a separate discussion. Certainly Yuriy Ivanovich Kuzmenko was a little mistaken—five

persons applied to the employment service for the Krasnopresnensk rayon (in any event I was shown precisely this number of cards filed) from the ministry that was abolished. Four of them were offered (we are citing notes from the control card): "oral information and a bulletin." Can such information satisfy a specialist or an employee of a high level agency? I posed this question to the director of this service, G. Potapova.

"No, the information that we have is basically intended for laborers. Take a look. Galina Aleksandrovna pulls out a couple of rather meager file folders in which the addresses of enterprises, organizations and institutes with openings for scientists, designers and specialists are kept."

Not a lot. Did those who were given "oral information" find work? A precise answer could not be given here.

"Probably they did, the ministry gave us this information," G. Potapova said.

Thus it seems that it is now high time, as the saying goes, to sum things up, to draw a line under what was said above and reach conclusions. In the first place: based on the testimony of experts the results that were anticipated from the reduction in the staff of union and republic ministries, including the Ministry of Light and Food Industry and Household Appliances, to date are far from what was desired. The administrative apparatus (we are generalizing this concept) has been reduced insignificantly if at all. Here are figures that I was able to copy in my notebook in the same employment bureau, although they deal with the RSFSR Ministry of Geology. In January of this year 410 persons worked here, and 52 positions were vacant. When the ministry was abolished 113 employees were transferred to the staff of the USSR Ministry of Geology, and jobs were found for 66 persons in enterprises and organizations of various branches.

Examples of "apparatchiks" giving up their positions for a job in the service sector, as the idea was at the outset of this campaign, could not be found either in the employment bureau or in the personnel departments of the former ministry.

And this is typical not only for the staffs of the upper echelons of the administration. As was noted recently at the session of the presidium of the AUCCTU, often at enterprises and organizations in many sectors workers employed in basic production are discharged, and the size of the administrative staff is not reduced. All this is the result of numerous violations of the established procedure: questions involving the discharge of people are settled in an undemocratic manner, without broad glasnost, in the narrow confines of the "triangle" [party, management and trade executives].

"You see, some days the telephones in our consultation center are simply red-hot from use," said V. Demin, a consultant of the working group of the AUCCTU and the

State Committee for Labor and Social Problems, who checks on questions connected with the reduction in force and finding jobs for people. "In the past six months more than 2,500 persons turned to us. Many calls were from employees of the Ministry of Light and Food Industry and Household Appliances. All of them said that often the managers simply ignore labor laws, and the trade union committees wink at this.

We should add that the violations can be eliminated only when there is complete glasnost in the resolution of all matters.

In the second place: There are too many shortcomings in the system of placing people in jobs. All this comes from the fact that the information service, both in the ministries and in specialized agencies that deal only with these matters, is, to put it mildly, on a level that is several decades out of date. What kind of data, forgive us, can an office have that is equipped with five telephones and poorly operating typewriters and does not even have decent premises? It is true, however, that today on the desks of the Krasnopresnensk bureau terminals of the future unified city information system have appeared. But when will this be? And will the employees of the employment service be able right away to win the confidence of the executives of enterprises, organizations and scientific institutes, so that they will give full information about openings? This trust after all has to be earned first. So that they do not later receive a "pig in a poke." Up to now the method of hunting for a needed job is reminiscent of the children's game "blind man's bluff," where the role of the blind man is played by both those who seek work and those who are seeking workers.

We all understand perfectly that the present day is not yet the end, further very great and complex work is ahead on the continuing release and outplacement of those employed in the system of administration, in bureaucratic work. The game of "blind man's bluff" will become more and more complex, and a successful result will become more and more unattainable.

12893

Silayev Discusses Issues Affecting Machinebuilding Sector

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Russian 17 Aug 88) pp 1, 3*

[Interview conducted by B. Shilov with Ivan Stepanovich Silayev, deputy chairman of the USSR Council of Ministers and chairman of the USSR Council of Ministers Machinebuilding Bureau: "Priorities and Prospects"]

[Text] **Radical modernization of domestic machinebuilding is a decisive prerequisite for the acceleration of scientific and technical progress and the reconstruction of the entire national economy. Truly inordinate efforts must be made to achieve the planned objectives, not only in**

machinebuilding itself but in related sectors and, naturally, in scientific research and design. For the time being, work done in this area is still inconsistent with the scale of the set targets. What constructive conclusions could be derived from the criticism leveled at the machine builders at the 19th All-Union Party Conference? On the request of the editors, this problem was discussed by Ivan Stepanovich Silayev, deputy chairman of the USSR Council of Ministers and chairman of the USSR Council of Ministers Machinebuilding Bureau.

Essence of the New Strategy For the Complex

The program for the reorganization of domestic machinebuilding requires of us in the 12th 5-year period the simultaneous solution of two problems which are difficult to combine: to achieve high growth rates in the volume of output and to reach world standards in terms of quality indicators. In order to accomplish this, we must increase output by approximately 1.5 times and renovate it by a factor of 4. What do the results of the first half of the 5-year period indicate? We have begun to work substantially better and have nearly doubled the growth rates of output. Nonetheless we were unable to reach the planned acceleration. This was affected by the initial imbalance between production plans and material and technical resources. Conversion from the indicator of the volume of marketing to the implementation of contractual procurements was quite difficult. The production process was seriously disturbed by the introduction of state inspection for which a number of enterprises turned out to be unprepared technically, organizationally and psychologically. We fully agree with the criticism leveled at the Machinebuilding Bureau which, together with the sectorial ministries, is responsible for the errors which were made.

Lagging behind the parameters set for the 5-year period makes our future tasks more difficult. We cannot lose time. We must act and act decisively. This demand formulated at the recent July CPSU Central Committee Plenum applies to us, machine builders, as well. What are our intentions in terms of action? The essence of the new machinebuilding strategy is to concentrate forces and means on priority areas in solving the basic problems of development of the national economy.

The most urgent task is to ensure the faster development of sectorial science. It is precisely in this area that we have fallen behind global standards and the needs of the national economy. Naturally, this did not occur all of a sudden but took years to develop. For a long time sectorial science was treated like Cinderella. Thus, in the preceding two 5-year periods capital investments channeled into the scientific-production area were increased by less than 10 percent. Outlays for scientific research and experimental design work in our country are lower than the worldwide average by a factor of 4-5. The capital-labor ratio of sectorial science per worker is much lower than that of advanced foreign companies.

More than one-third of scientific and design organizations had no experimental facilities whatsoever. Disproportions and distortions in this area have been striking. For example, the capital labor ratio at the scientific research institute of the Lenalektroapparat NPO is 36,300 rubles, compared with 17,000 rubles at the ENIMS. Per capita assets at the Central Design Bureau for Petroleum Extraction Equipment, the Podolsk Scientific Research Institute for Starter Batteries and the VNIIDMASH of the Minstankoprom are lower by a factor of 5 or even as much as 10.

It is entirely obvious that the potential of sectorial science and the economic principles and organization of its work must be substantially strengthened and developed.

What is Obstructing Production Updating?

You started by saying that the pace of renovation of produced goods must be accelerated by more than 400 percent. To what extent have you been able to advance in solving this problem?

Last year 9.1 percent of produced goods were updated, compared with 7.6 percent as planned. The share of the most important machines and equipment meeting world standards has increased to 49 percent of their overall volume of output. This is not bad. However, in 2.5 years we have failed to make use of virtually the entire available scientific-design facilities, for which reason the pace of updating the output today may slow down. We are particularly concerned with disproportions in intersectorial areas. Today virtually all of our enterprises must develop and produce built-in electronic means of automation and have at their disposal the necessary choice of components. However, the USSR Minelektroprom, which holds a monopoly position in this area, is unable to cope with the requirements and has led us to a virtual impasse in the development of electronic facilities for machines and equipment. As a rule, we are being offered old developments based on the principle of "take what they give you and if you are squeamish you will not get even that." Today the need for specialized integrated microcircuits is for 20 million pieces; demand by 1990 will be increased by a factor of 6. Unfortunately, the Minelektroprom is neither providing us with such goods nor promising to deliver them in the future. The need for integrated sensors will increase tenfold over the 5-year period while the availability of such items will remain on the zero mark.

We are forced to surmount the gap in the lack of electronic facilities through our own efforts. We have begun to develop capacities for designing and producing models of electronic equipment at leading machine-building enterprises, using the help of related sectors. Something has already been accomplished by Minpribor, Mintyazhmash, Minavtoprom and Minstankoprom. However, for the time being such development remains insufficient. I believe that the faster development in the

production of electronic sets will require the adoption of a system of most favored economic development. We must find and make use of all ways and means, including active cooperation with foreign companies in the development of electronics.

The scarcity of building materials, such as electrical engineering thin steel sheets, with particularly low specific losses, used in the manufacturing of power transformers, bimetallic rolled pieces, shaped pieces made of low-alloy steel of greater strength, steel with anti-friction zinc coating, aluminum and aluminum alloys, and a variety of nonmetallic high-efficiency materials remains a major hindrance in the scientific and technical updating of machinebuilding output. We are quite concerned by the fact that assignments for increasing the production of such materials are being met by less than one-half of demand. The machine builders seriously criticize the level of quality of industrial rubber goods, plastic materials for engineering-technical use, fuels and lubricants. Nearly one-half of such items are below world standards.

At this point we must acknowledge that to a large extent the grave shortage of advanced building materials is the fault of the machine builders who failed to supply equipment to related sectors of such great importance to us. This error must be corrected. Currently, with a view to reaching world standards in construction materials, a special program is being drafted in which the machine builders will play one of the main roles.

In the second half of the 5-year period we must accelerate the pace of the average annual growth of basic indicators by a factor of 1.5-3.5. Especially strenuous efforts must be made in developing a background for the development of new generation technologies and experimental facilities in sectorial science.

Together with our consumers we have refined priorities in the development of new generations of equipment, covering 44 areas in the basic national economic complexes: fuel-energy, metallurgical, chemical-timber, agroindustrial, construction, transportation, social, etc. For example, a system of highly automated machines for intensive technological systems is being developed for the agroindustrial complex. We also plan to develop a set of machinery for the mechanization of work done by family and contracting collectives. Priority in social development will be given to consumer goods of improved quality, modern medical equipment, highly efficient equipment for the publishing and printing industries and others, or a total of some 1,000 projects. Similar detailed work has been done on the basis of other programs as well.

As much as one-half of the entire volume of scientific research and design-engineering work is being concentrated in the advanced areas. This accounts for about two-thirds of all investments for the development of scientific research and experimental-engineering facilities and more than 70 percent of computers and means

of automation of scientific-engineering work. We intend to enhance the capital-labor ratio per worker in sectorial science within this complex by an average factor of 2.3 in the next 3 years.

Under conditions in which capital investments for the 5-year period have already been allocated, the question arises of where to find the necessary funds? One of the main sources for fund redistribution is the more extensive use of the funds of customers. Furthermore, naturally, this will also require use of the funds earned by the enterprises. Finally, we shall use the centralized investments in science and technology. Clearly, however, we shall need an additional 3.6 billion rubles. According to the promises made to us by the Gosplan and the other economic departments, the needed funds will be made available when the specifics of the annual plans have been formulated.

What Is the Influence of the Economic Reform?

The most important turning point in the machinebuilding complex, unquestionably, is the conversion of enterprises to full cost accounting and self-financing. How did the collectives work in the first months of operation under the new economic management conditions?

The results can be judged by economic efficiency. In the first half of the year labor productivity increased by 7.9 percent, which is somewhat higher than the planned figure. During that time the size of the industrial-production personnel declined by 42,000 people. Above-planned profits totaled 550-600 million rubles. It is only the enterprises of the USSR Minselfkhosmash that failed to achieve their planned profits. The implementation of the program for the economic improvement of enterprises and of credit assistance enabled us significantly to reduce our indebtedness.

Naturally, economic accountability yielded faster results wherever managers and specialists were able to fully master the new economic management methods and to display a feeling of innovation, thrift, and a sense of good marketing and enterprise. Unquestionably, I could name among such economic managers Boris Ivanovich Fomin, general director of Leningrad's Elektrosila, who today is also chairman of the board of the Energomash Intersectorial State Association; Alim Ivanovich Chebanov, general director of the Rotor NPO in Cherkassy; Yuriy Vladimirovich Skokov, director of the Kvant NPO; Yevgeniy Alekseyevich Brakov, ZIL general director; and Vladimir Pavlovich Kabaidze, the noted machine-tool manufacturer in Ivanovo. These are real enthusiasts of perestroika in machine building.

Nonetheless, we are concerned by the fact that many managers have still not abandoned approaches inherited from the period of stagnation. They are displaying sluggishness in solving the most vital problems of the radical economic reform and, sometimes, a feeling of total dependency. For example, the Gidropress Association in

Orenburg of the Minstankoprom (V.M. Starodubtsev, director) failed to fulfill its profits plan by more than 2 million rubles and increased its above-norm stockpiles by 50 percent. In the first half of the year production shortfalls equaled 3.5 million rubles. Let us look at the Zaporozhpromarmatura Association of the USSR Minkhimmash (V.A. Lyannoy, director). The association fulfilled its contractual plan no more than 97.1 percent and had losses totaling 770,000 rubles. Many other such examples could be cited. Approximately 38 percent of all enterprises failed to fulfill their contractual procurement obligations. Naturally, their profits declined significantly. Many enterprise managers, finding themselves in a difficult financial position, are focusing their main efforts on requesting and extracting financial aid and benefits, and revising withholding rates or, in short, making use of the entire arsenal of the old means. Others, trying to earn high profits at all cost instead of organizing systematic work to lower production outlays, are unjustifiably increasing their prices. This is particularly the case of Minstankoprom enterprises.

We must bluntly say that the economic reform is stuck in the various offices. Instead of a profound study of the financial situation of enterprises, the economic circumstances in the sector and drafting and implementing constructive steps, as in the past the ministerial apparatus is involved in justifying unsatisfactory work and drafting requests for state aid. Cases of ignoring and opposing interesting suggestions formulated by labor collectives are frequent. As before, in the area of the most essential problems not national economic but departmental and sectorial interests prevail. We shall not be able to succeed in the area of intersectorial cooperation by lying in the Procrustean bed of sectorial isolation. Many good initiatives have crumbled in the face of the impregnability of the fortress of departmental interests. This was the case with our intention to organize production cooperation of ARM, testing stands, rolled-metal equipment and many others. The ministers are in favor and the bureau makes a decision to this effect while the ministerial machineries bring all directives to naught. We must bring down departmental fences more energetically!

Recently the Leningrad machine builders created Energomash, the first intersectorial state association. The Elektropribor MGO was set up on the initiative of the Kvant NPO. Other similar plans are on the books. Naturally, this process is difficult. There is clearly a lack of resolve not only on the part of ministry apparatus but of enterprises as well. We recently suggested to one of the progressive general directors, who frequently criticizes the ministry, to organize a MGO. Time has passed and we have heard nothing from him. In our view, the process of establishing intersectorial associations deserves all possible support and promotion.

Economic accountability and self-financing bring to life new nontraditional forms of labor organization. How are they developing at machinebuilding enterprises? For example, large steel-smelting shops are working on the

basis of collective contracting at the Minsk Tractor Plant and Uralmash associations. A number of brigades have been converted to collective contracting at the Zaporozhtransformator Association. The Minelektrotekhprom prepared materials for converting the Moscow low-tension equipment plant to work under the conditions of the leasing system. It suggested that the collective of the NPO imeni Frunze (Sumy) lease its enterprise. According to USSR Goskomstat data, in the first quarter there were 425 cooperatives operating within the machinebuilding complex, employing 6,580 people, and with a volume of output (services) of 8.7 million rubles, which is less than 0.01 percent of commodity production output in machinebuilding. This is extremely insufficient. Good results could be obtained by using cooperative methods.

The Konveyer Association in Lvov developed and is applying an essentially new form of self-financing and shareholding distribution of profits. As V.M. Vologzhin, its general director, told us at the Central Committee Conference, at the present time this association acts as a state shareholding socialist enterprise.

We see, nonetheless, that despite the obvious efficiency of the new organizational methods of economic management, by no means are all heads of ministries and enterprises working with sufficient energy in this direction. As in other areas of the national economy, in machinebuilding more energetic processes are developing on the lower level, on the part of the labor collectives, while the mechanisms of obstruction manifested through the administrative means applied by management continue to operate.

How Will Management Be Reorganized?

Today the most important area is perestroika in the organizational structures and, particularly, in determining the role of ministries in the new economic management system. This problem was in the center of attention at the 19th All-Union Party Conference and was discussed at the recent CPSU Central Committee Plenum. How do the sectors within the machinebuilding complex view the reorganization of management?

I believe that the sharp criticism voiced at the All-Union Party Conference will force the ministers to reinterpret their role. For the time being, we notice reinsurance caution displayed in words and resolutions. Obviously, they are still not feeling all too confident under the new economic management conditions. Furthermore, we must admit that we ourselves are still demanding of ministry managers the implementation of functions which, by law, have been shifted directly to associations and enterprises, i.e., which are now outside the area of the personal responsibility of the ministers. It is theoretically clear that the ministries must define the ratios of

sectorial development and promote scientific and technical progress. Meanwhile, we are demanding of them to deal with current production problems as well. Therefore, the position in which our ministers find themselves is not simple.

It was noted at the CPSU Central Committee Plenum that the reputation of the management authorities and the cadre apparatus will depend on the speed with which, under the new conditions, the management authorities will find their proper place and the success with which they will be able to master the new economic management methods and restructure their relations with enterprises.....

Let me share a few considerations in this connection. The speeches which were made at the party conference by enterprise directors and members of labor collectives reflected a certain confrontation between the headquarters of sectors and their basic units, existing in economic life although both are called upon to solve common target problems. What is the matter? In my view, given the existing structure of management, the harmony which is needed between production units and the ministry apparatus in order to ensure the success of the project will not be achieved. There is an extremely pressing need to make the activities of the apparatus of ministries consistent with the new economic circumstances. In my view, this does not require any overall efforts or capital outlays whatsoever.

How do I conceive of this? Above all, by simplifying the structure of the central apparatus. Today its rigidity and slowness are largely the consequence of the vertical structure of the management pyramid. The problems raised by life pass through a complex path of instructions from the minister's office down to the immediate rank-and-file performer and, subsequently, expanded with corrections and approvals, draft decisions make their way back. Such a management cycle, which involves dozens of people, who may or may not be needed in each separate case, takes weeks and months or even years. Even the most urgent matters turn into a paper red tape within this bureaucratic carousel. How can we break this magic circle? We should close down main and other administrations. Let any problem coming out of the minister's office go straight to the department, to the most competent and knowledgeable specialist. This will eliminate a few levels in the administrative pyramid and problems will be solved more efficiently. Naturally, the ministerial apparatus must be handled by reputable, experienced and profoundly knowledgeable officials. As the saying goes, better less but better. Wages as well should thus become higher as a result of funds saved from personnel reduction. That is how I conceive of simplifying the vertical management system.

The second and more serious problem is how to make the interests of the ministry apparatus coincide with that of labor collectives, and promote their partnership and

responsibility for end national economic results of production activities of enterprises and entire sectors? People's actions and steps are motivated by interest. Yet the interest of the personnel of the apparatus is totally economically unrelated to enterprise results. However conscientious the ministry personnel may be, they lack the economic sense of mobilization inherent in plant workers. How to surmount the economic alienation of the departmental apparatus from production results? Perhaps we should allow the rank-and-file personnel of the ministry to own stock in the enterprises under their management. If not stock, at least by decision of the councils of labor collectives the enterprises could pay bonuses to the particularly efficient members of the apparatus in terms of helping the workers. It is entirely possible that it is precisely the enterprises who should delegate to work in the ministry their own specialists, thus creating conditions for material incentive. If such managers become passive, the plants would have the right to refuse their services and deprive them of bonuses.

Finally, let us speak of the democratization of the ministerial structure, on which economic managers on the plant level are energetically insisting. The problem of making departments less conservative is pressing. What type of democracy should replace the bureaucracy of the apparatus? Here is the way this could happen, as I imagine it: based on specific presentations, sectorial councils would be set up consisting of members of labor collectives. These would be reputable economic managers, worker activists, noted scientists and specialists. The sectorial council would elect (and not appoint) a collegium or, let us say, a board of the council of the sector for a certain term, let us say 5 years. This body would act as the sectorial legislative authority. The minister, appointed by the USSR Supreme Soviet, would submit to the sectorial council for its approval the personnel, such as deputy ministers, the table of organization and its cost. The ministry would be financially supported out of withholdings from enterprises. It would also be proper for the sectorial council to supervise the use of funds appropriated for the activities of the apparatus. Naturally, the main task of the sectorial council would be the collective formulation of a set of priorities for development, the formulation of investment policy, scientific and technical strategy and consideration of other large-scale problems. The likelihood of subjectivism, distortions and gross errors would become less under the conditions of extensive collective management and glasnost.

It is my belief that the practical implementation of such steps in the immediate future would help us to surmount the harmful conflict relations existing between enterprises and the apparatus of ministries and enable us to develop the extremely needed harmony in the activities of production units and sectorial headquarters of the machinebuilding complex. The USSR Council of Ministers Machinebuilding Bureau as well is promoting the elimination of some levels and simplifying the structure,

with a view to enhancing the role and responsibility of every single one of our officials. I believe that every senior official within the bureau must concentrate on the most important machinebuilding problems related, above all, to the acceleration of scientific and technical progress. In particular, we actively intervened in the matter of the difficult development of the integral tractor developed by a group of Lipetsk designers, headed by A. Durmanov. This is a very interesting piece of machinery! Many problems remain in this area and one can sense the silent obstruction on the part of the apparatus of Minselkhoz mash. However, this project, which was almost entirely banned for 10 years, has now advanced. By now we have many cases of such successes achieved by the bureau specialists. However, they have still not created an integral picture and many more blank spots remain in our work for which, I repeat, we were justifiably criticized at the 19th All-Union Party Conference.

Have Tangible Changes Taken Place in International Relations?

Ivan Stepanovich, practical experience indicates that competition on the world machinebuilding market is providing an impetus to domestic technical progress. However, last year machines, equipment and transport facilities accounted for no more than 15.5 percent of our export structure. Such items accounted for 41.4 percent of imports. This correlation cannot be described as prestigious for us. What changes are taking place in the foreign economic activities of the machinebuilding complex?

As you probably realize, the foreign economic activities of the machinebuilding complex are developing under the conditions of the restructuring of the entire system of international economic relations of our country. In our area as well there have been some changes and new approaches. We have the joint Avtoelektronika Soviet-Bulgarian Enterprise, the Mikromed Joint Soviet-Hungarian Enterprise, 18 international scientific-production associations and 30 joint organizations (laboratories); direct cooperation relations have been established between 320 sets of enterprises. Nine enterprises have been created jointly with companies from capitalist countries in the areas of machine tool manufacturing, automobiles and chemical and road construction machinebuilding. Forms of foreign economic relations, such as involving consortiums of Western companies in solving major national economic problems are being developed. Thus, for example, a consortium of Soviet ministries (USSR Minkhimmash, USSR Minstankoprom and USSR Minkhimprom and a consortium of Western companies, headed by the American Dresser Company have been set up for purposes of developing chemical machinebuilding; a joint engineering company has been set up to coordinate the interaction between these consortiums.

Nonetheless, for the time being we remain poor organizers of firms and merchandising. We are acting slowly and clumsily. Thus, for example, for more than 1 year the

Minpribor has been engaged in talks with the American Bailey Company to develop the joint production of automated control systems for technological processes. Virtually no progress has been made. Nor have there been noticeable results achieved by the USSR Minselkhormash, USSR Minelektrotekhprom and USSR Mintyazhmash.

Engineering companies have become widespread throughout the world. This form of attracting foreign experience is still the subject of little attention. Yet, that same Minavtoprom has good opportunities for developing engineering firms for automobile design. The USSR Minselkhormash is experiencing major difficulties in marketing some of its output on the domestic market. It could regroup its forces and facilities for the development of its export potential.

We must substantially increase the selling of scientific and technical output and services abroad. We have an example worthy of emulation in the NAMI Automotive Testing Grounds, which is steadily engaged, on a contractual basis, in testing virtually all car models produced by CEMA members and Yugoslavia and a number of capitalist countries. This testing facility is earning foreign exchange for the country and has been asked by many foreign companies to expand its paid services.

We must admit that, for the time being, our Western partners are more active. However, they frequently encounter suspicion, immobility and red tape. Naturally, no sensibly thinking company would engage in cooperation if it finds it unprofitable. We must find ways leading to reciprocal benefits. Let us take the case of Khomatek in the area of machine tool building. A large number of ever new suggestions have come out from our partner in this enterprise organized jointly with the FRG on expanding the realm of activities. However, initiatives on the part of Western partners, which would be advantageous to us, are not being accepted and have become mired in the apparatus of the Minstankoprom.

Granting foreign economic independence to enterprises and sectors provides extensive opportunities. Today nothing prevents the creation of collectives for the joint development of equipment, cooperative production, engineering companies and joint enterprises. We also need middlemen promoters who would boost the sale of our goods on foreign markets. We must involve more actively our foreign partners in participating in international exhibits in the Soviet Union, where the contract signing process has been well organized. The activeness of our enterprises, organizations and ministries is the main factor for successful foreign economic activities.

The leitmotif of the discussion which was held at the July Central Committee Plenum was the urgent party demand of intensifying the implementation of practical tasks of perestroika. Time does not wait. The implementation of the programs for the creation of the most important types of machines and equipment in the

priority areas will be the specific contribution which the machine builders will make to the creation of a highly dynamic and intensive economy.

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AUTOMATION, AUTOMATED SYSTEMS

Specialists Discuss New Approaches to Flexible Manufacturing Systems

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[Interview with USSR Academy of Sciences Corresponding Member D. Lvov and V. Serebrennyy, candidate of technical sciences and head of the Automation Department of Minstankoprom's (Ministry of the Machine Tool and Tool Building Industry) Institute for Increasing Qualifications, conducted by V. Vasilyev, SOTSIALISTICHESKAYA INDUSTRIYA correspondent: "Flexibility in the Light of the Economy—an Actual Interview", date and place not given]

[Text] At the 19th Party Conference it was emphasized that the problems of scientific and technical progress should be viewed in the overall context of social development. What does this mean as it pertains to flexible manufacturing systems? This was the topic of the conversation between our newspaper's correspondent and USSR Academy of Sciences Member D. Lvov and Candidate of Technical Sciences and Head of the Automation Department of the Minstankoprom Institute for Increasing Qualifications, V. Serebrennyy.

[Question] It has been four years since the program for widespread comprehensive automation of machine-tool production was adopted. Quite a few FMS's [flexible manufacturing systems] have been built since then, including about 300 last year alone. But as we write in our articles and readers confirm in their letters, FMS's are totally unprofitable. And other developers believe that it isn't generally worthwhile to talk about the profitability or unprofitability of these complicated systems, but that the main thing is to learn how to make them. Isn't this position too wasteful for our society?

[Lvov] Yes, the flexible systems created in this country have not produced the expected upswing. In spite of considerable outlays, no apparent changes ever occurred in industry, and even more importantly, in the consumer goods market.

But what are the experts arguing about today? They are talking about the imperfect methods used to evaluate economic results, high equipment prices, the unreliability of domestically-manufactured equipment. Even though the FMS's built from imported equipment are equipped with highly reliable control systems, they, too, are unprofitable. All the same, here's a fact for you: in Pennsylvania, an American company in used an FMS to

shorten the development period for a motor from 28 months to 28 days. That's a factor of 30! It's easy to evaluate the economic gain that system produced.

They are also arguing about whether to involve FMS's in large- or small-series production. Professor L. Volchkevich, in his article "FMS's in the Plans—and in Reality", which your newspaper printed on 16 March, supports, for example large-series and even mass production. What is to be said about this? I concur on only one specific example. The flexible manufacturing system at the Moscow Motor Vehicle Plant imeni Lenin Komсомol—with its mass production capability—does not cost a billion gold rubles. And its yield? The domestic market's increased demand for motor vehicles has still not necessitated non-stop production of its models. This makes it unlikely that the expensive production-readjusting potential of the FMS will be realized in the foreseeable future. And that the billions to pay for the motor vehicle will come from the consumer's pocket.

That really is something to argue about. And likewise, I don't feel that the discussion is on the right track. The primary problem of the unprofitability of FMS's stems from the way they themselves are produced. The error here is in the lack of a scientifically valid concept of flexible automation. Most manufacturers see their primary task as that of increasing production quantities. And this is why, in "adding on" new equipment to existing production, they limit their goals to achieving higher labor productivity in a single, generally "narrow" section. Where will this lead? The results gained at the cost of expending considerable effort and outlays in a single area are completely cancelled out somewhere else. In sharply increasing production of some particular parts—intermediate products—an FMS is doing nothing more, when all is said and done, than stockpiling.

In fact, volumes of unfinished production have already been estimated to approach R15-20 billion. This is a tremendous reserve and could be used to manufacture added tens of thousands of vehicles without increasing production capacities. And FMS's, having brought production to a state of efficient economy, should put this reserve to use. Foreign specialists hold the view that no other innovation since the discovery of electricity compares with the potential of these systems.

[Question] But how does one reach this potential?

[Serebrennyy] First, we have to ask ourselves: what do we want for the millions of rubles we've spent? The answer to this question also lies at the basis of the concept we proposed. The primary difference is that it is aimed at making radical changes in the organizational and technical level of the full range of production rather than just its individual sections. But as soon as the question is posed, it becomes not a matter of the technical potentialities of the FMS's elements, but primarily of improving the enterprise's operating efficiency.

The present approach is purely technocratic, and puts the economy in a subservient role. It appears at the very last stage of FMS planning, when the economic effect of an already-adopted engineering resolution has to be calculated. With this ideology, which we promote, the economy is the first principle.

[Lvov] The economic approach demolishes established concepts and forces us to perceive the essence of full-scale automation differently. For us, this by no means implies filling enterprises to the ceiling with automated equipment. The level to which automated equipment is used is determined not by the amount of this equipment, but by the degree automation influences the final result. A solution which combines automated and non-automated production sections within a single system may turn out to have a greater economic effect. And that is why the intent should be to comprehensively upgrade production with partial FMS automation. Here, the greatest gain would come only when flexible automation encompasses not the "sore spots", (bottlenecks), but those production sections which are crucial to the manufacture of finished products.

[Serebrennyy] It is important that we mention that this concept changes the way we approach the gradual introduction of FSM's. The present sequence is: machine-tool—robot—memory—computer. This results in moving the yield to the end, when the entire system begins to function. Meanwhile, gains can be made much sooner by gradually introducing local, but thoroughly completed, automation systems. Setting up a sequential subsystem such as this solves the problem of full-scale organizational and technical renovation of the entire enterprise at every stage.

Calculations show that this can reduce the product manufacturing cycle by a factor of from 10 to 50 over the traditional approach, and permits operation with practically no stockpile of unfinished products. And this means that specific capital outlays can be reduced by a factor of 20 and can be recouped not in 40-50 years, but in only 1.5-2 years. So these are the reserves FMS's have at their disposal if they are developed systemically.

[Question] You mean beginning with determining which sections are the most important?

[Lvov] Not really. We have to start out before that, with a question which is not generally taken into account when costly projects are being developed. I am talking about marketing, i.e., studying the demand and forming a market for the enterprise's output. The first thing the plant has to do is find, so to speak, an ecological niche into which its specialization fits. With a backlog of appropriate orders, it will be able to react instantly to the demands of the market and will not be economically dependent on market conditions. An FMS can be designed only when this problem has been solved.

[Serebrennyy] And this is where a number of absolutely new problems arise. Actually, it takes especially highly-skilled specialists to design a manufacturing system as scientifically intensive as an FMS. This is related to the fact that the center of gravity has moved from the traditional development of "iron" to the development of a product which is programmed. The primary use for this complicated and expensive "software" is its potential during the pre-planning stage for looking into and comparing a multitude of automation strategies. This is precisely where the organizational and technical decisions are made which predetermine the system's effectiveness. Errors at this so-called "engineering" stage can incur tremendous material losses. Naturally, the plant itself cannot do this work. And the research conducted by a great many scientific organizations has thus far led only to a scattering of efforts and moneys and negligible results. Suffice it to say that the former Minvuz [Ministry of Higher and Specialized Education] alone spent up to R100 million per year to these ends with no apparent results.

So this appears to be why one of today's high-priority tasks is to set up a scientific center in our country to deal with the problems of flexible automation. This is the only way we will be able to develop profitable FMS's.

[Question] When we talk about FMS effectiveness, we mean first of all their profitability for the state, or their contribution towards increasing the national income. But under self-financing, an enterprise's in-house yield and increasing its cost-accounting income is much more important. And FMS costs are associated with tremendous economic risk. This can greatly change producers' attitudes towards new equipment.

[Lvov] You're right; this problem does exist. The most important thing for a manufacturing plant today is to increase profits. And in order to cut costs, a different shortsighted director will not only reject FMS's, but will gladly sell off his NC machine tools and computers. And what will this plant do tomorrow? Deprived of the ability to change what it manufactures, it will find itself unable to compete in the market. The upshot is that another way needs to be found to help this director's plant find a direction in which the state's interests coincide with those of his collective, i.e., to assure him that his present outlays for automation will be recouped a hundredfold.

[Serebrennyy] This is precisely why we promote "Methodology for Making Feasibility Studies in Areas of Rational Use of FMS's, and an Evaluation of Their Effectiveness". This methodology was produced through the joint efforts of the USSR Academy of Sciences Central Economic-Mathematical Institute and Minstankoprom's Institute for Increasing Qualifications, and resulted in the first-ever development of an instrument for determining the feasibility of decisions at all stages of FMS development and use.

What specific suggestions can we make to a plant? We can conduct a systems analysis of its production facility, and can determine whether it is generally advisable for it to set up an FMS, and if so—then exactly what kind and in which section, and we can say exactly what the economic profit will be and how long it will take for it to be forthcoming as a result of introducing flexible automation. In other words, we will teach the plant what to do, and where and how to do it to obtain the greatest effect.

A special feature of this methodology is that it permits a run-through of all the permutations of using the FMS at the pre-planning stage, and allows each of them to be evaluated. And we provide the customer with a packet of optimal suggestions. By keeping his costs commensurate with his profits, he will be able to select the most rational strategy for gradual introduction of an FMS.

We can now provide this service for any plant in the country or for any foreign firm.

[Question] Have you already begun practical implementation of this methodology?

[Serebrennyy] Yes, we have begun working with a number of machinebuilding enterprises. We made the calculations for the Dmitrovskiy Milling Machine Plant and the Gomel Machine Tool-Building Plant. The Krasnyy Proletariy is next, and then the Azov Automatic Press Forge Plant and the Lvov Milling Machine Plant....

[Question] And what have been your results?

[Serebrennyy] Here's one example. We suggested that the Dmitrovskiy Milling Machine Plant set up an FMS which would earn them R40,000 per year. Our calculations showed that the plant, having earned these revenues in one section, would by and large lose over R70,000 per year by increasing incomplete production by itself. We suggested an alternative—that they invest the same amount of capital to set up three FMS's in altogether different sections. And we determined the conditions required for them to earn about R1 million per year.

[Question] I've heard that preparing the initial data for your calculations is very labor-intensive.

[Lvov] It certainly is. We have to have exhaustive information on the plant's production facilities and its output. The preparatory work takes approximately 200-300 man/days, or R2-3,000. Now judge for yourself: the plant spends R3,000, and gets a reliable feasibility study which will save it many millions. The fact is, equipment costs are not the only losses caused by unsubstantiated decisions. Non-productive expenditures will increase year in and year out. If, for example, an FMS which has been put into operation without having been well thought out begins to produce more and more incomplete production, the rate of turnover of working capital

will fall off. And this preparatory work takes 50-70 days here in our country, and only 3 days in Japan. And this is one of the main reasons, by the way, that it is so hard to compete with them.

Using an FMS to increase the rate of turnover of capital 25-fold is equivalent to trying to increase plant profits 30-50-fold by manufacturing huge volumes of output with the same production capacities. It's too high a price.

[Question] How long have you been involved with this ideology of FMS development?

[Serebrennyy] The idea was first propagated in 1976. By the by, Leonid Ivanovich Volchkevich joined our inventors' collective after receiving the country's first inventor's certificate for an FMS for flow-type small-series parts production. You could say that that was when the technical prerequisites for setting production up on a radically new basis were created. And that was when the question arose of how to produce altogether different production quality with an FMS. And that's when the need arose for purposeful technical, and most of all economic, parameters.

[Question] Consequently, years passed before the ideas were brought to fruition. Apparently, there were obstacles along the way.

[Serebrennyy] I wouldn't say that the idea encountered sharp opposition. To be more precise—it had not the least support. And this is understandable, since there was no need for it. Development of a certain number of FMS's was written into the plans submitted to the ministries, who sent the plans on to the enterprises. The plans were fulfilled to the letter. What else was there to do? The economy wasn't disturbing anyone. And the decisions being made at that time were usually the result, not of economic considerations, but considerations of prestige. So, for example, the United States had plans to produce 294 FMS's by 1990, where we planned to produce 2,000. With appetites like these, nothing would have been gained by pumping billions into the project and producing more FMS's than America. What would

have been the purpose? And during their numerous business trips, the officials saw only the systems' external features and were unable to get to the heart of the phenomenon.

And this is why, even though the question was repeatedly discussed on various levels for decades, the matter never went anywhere. What did we do about it? We tirelessly propagandized our method, and mainly—we sought out like-minded people who could soberly assess the results of this, to put it mildly, economic apathy.

[Question] And are there like-minded persons today?

[Lvov] Yes, we have found serious support, mainly in the Bureau of Machinebuilding and in Minstankoprom [Ministry of the Machine Tool and Tool-Building Industry]. We have also gotten linked up with a scientific society, and a temporary creative collective has been set up in affiliation with the Mashprom Scientific and Technical Society. Orgstankinprom [State Planning, Production and Experimental Institute for the Organization of the Machine Tool Industry] is participating in the development of an automated FMS calculating system and pre-plan feasibility studies. This system will permit appraisals of all industrial enterprises and the optimal retooling strategy to be chosen for each. We have set up a modelling stand which will help us issue a packet of programs—which are a universal means for practically implementing our ideology at the engineering calculations stage. And in the future, it will help us solve such problems as finding a rational structure for a machinebuilding complex, determining the scope of production facilities in light of their specializations and the relations between enterprises of Group A and Group B. In fact, the problems associated with FMS's have shed light on a great many general flaws in our economy, primarily in the economics of scientific and technical progress. We now need to take steps so that large-scale capital outlays for upgrading the machinebuilding sector have a direct bearing on meeting the vital demands of the population, as well as a direct bearing on their everyday life.

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